

2-2
January, 1957



SOAP and CHEMICAL SPECIALTIES

In this issue...

Research need emphasized
at soap industry meeting

Water based aerosols may
rise to total sales volume

Pyrophosphates' function
in new liquid detergents

New floor finishes rated
for use on soft surfaces

Harry E. Peterson, president of Peterson Filling & Packaging Corp., Danville, Ill., and newly elected president of the Chemical Specialties Manufacturers Association.



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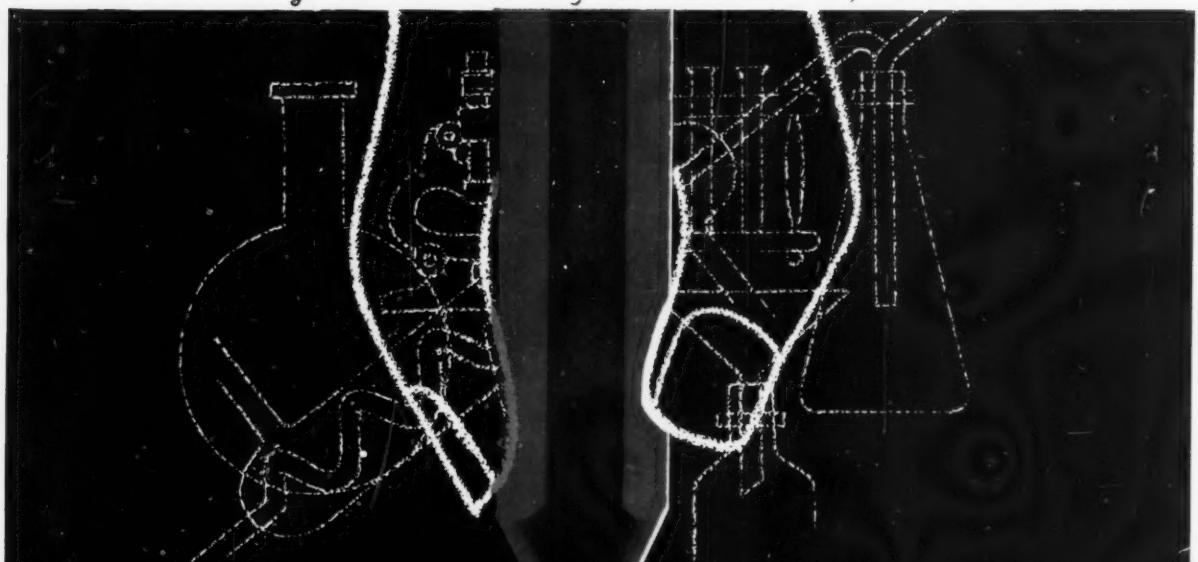
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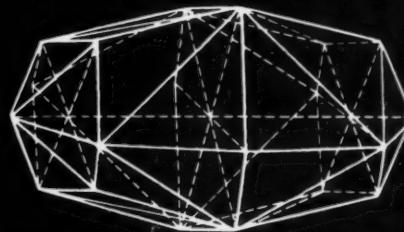
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SOAP

and Chemical Specialties

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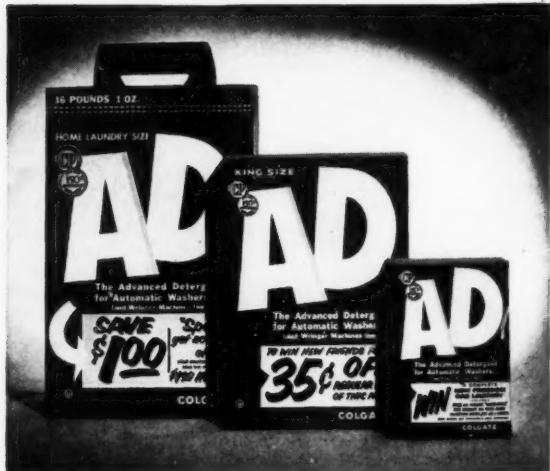
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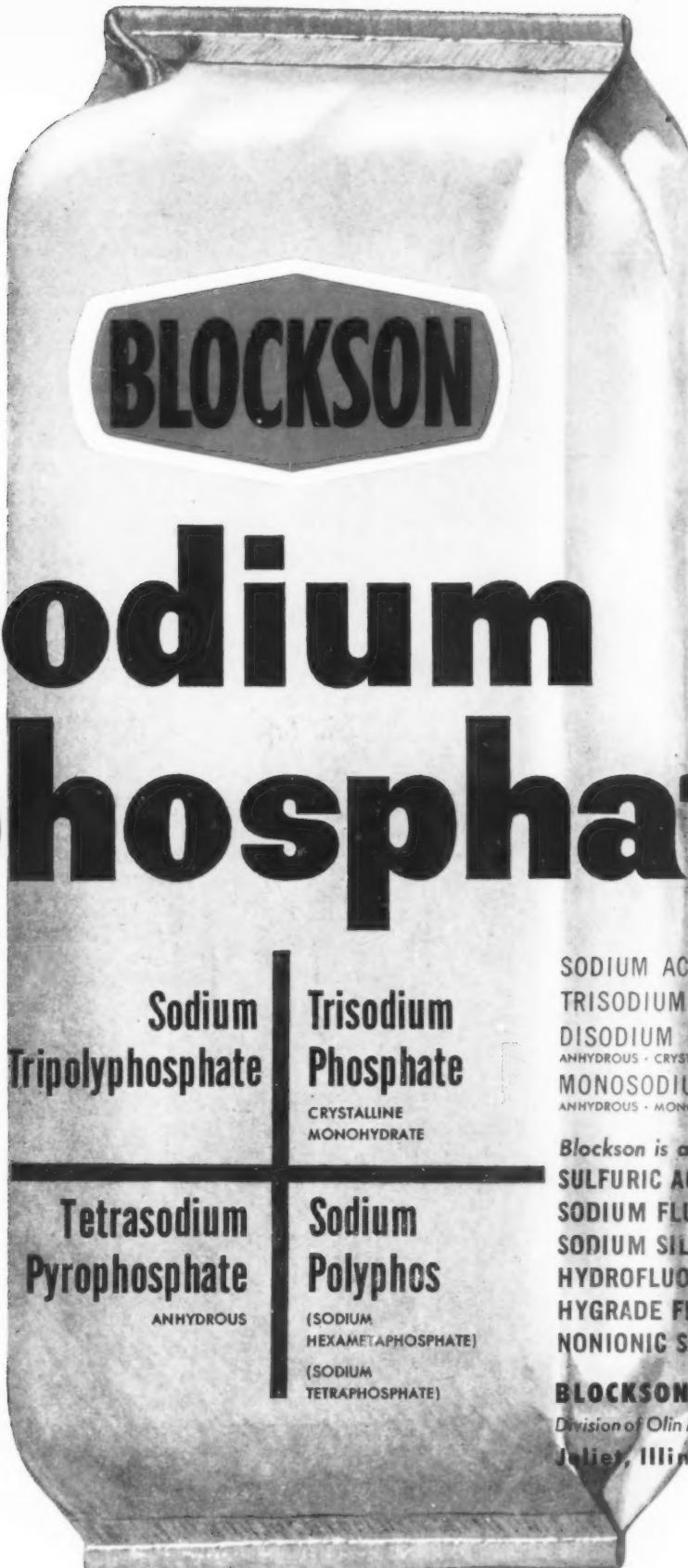
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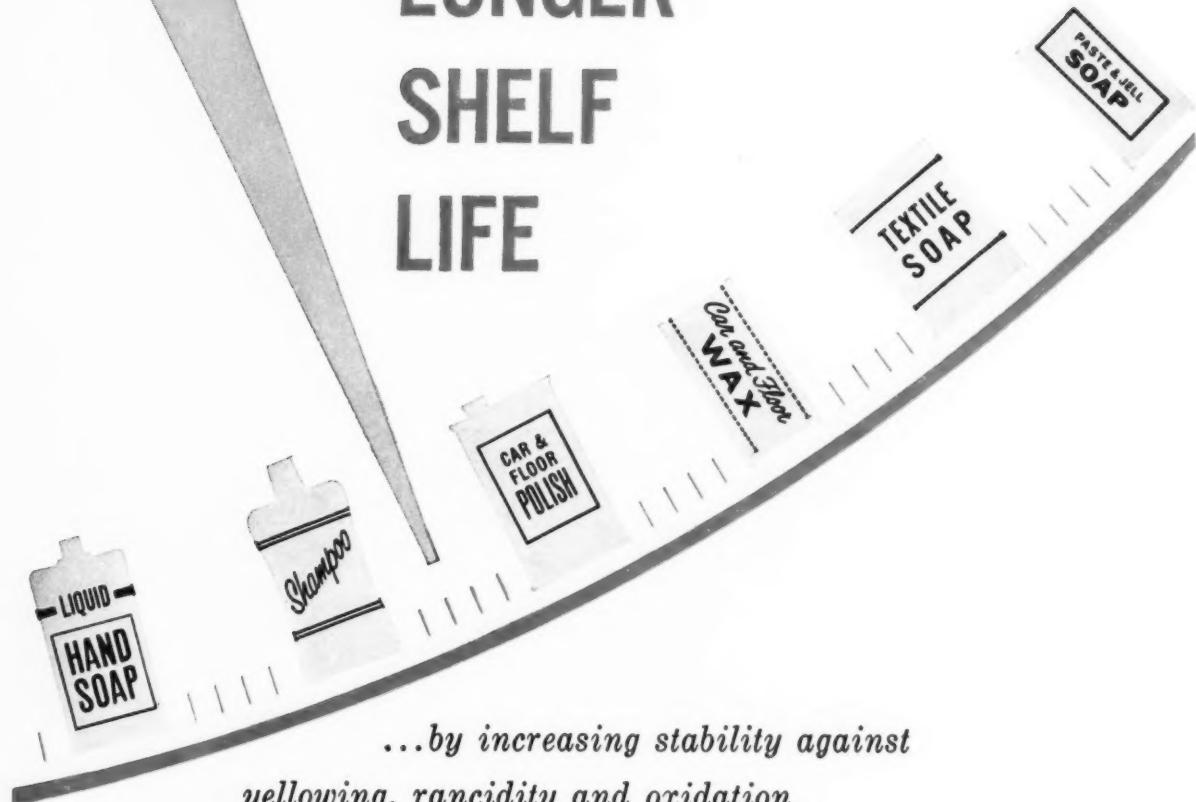


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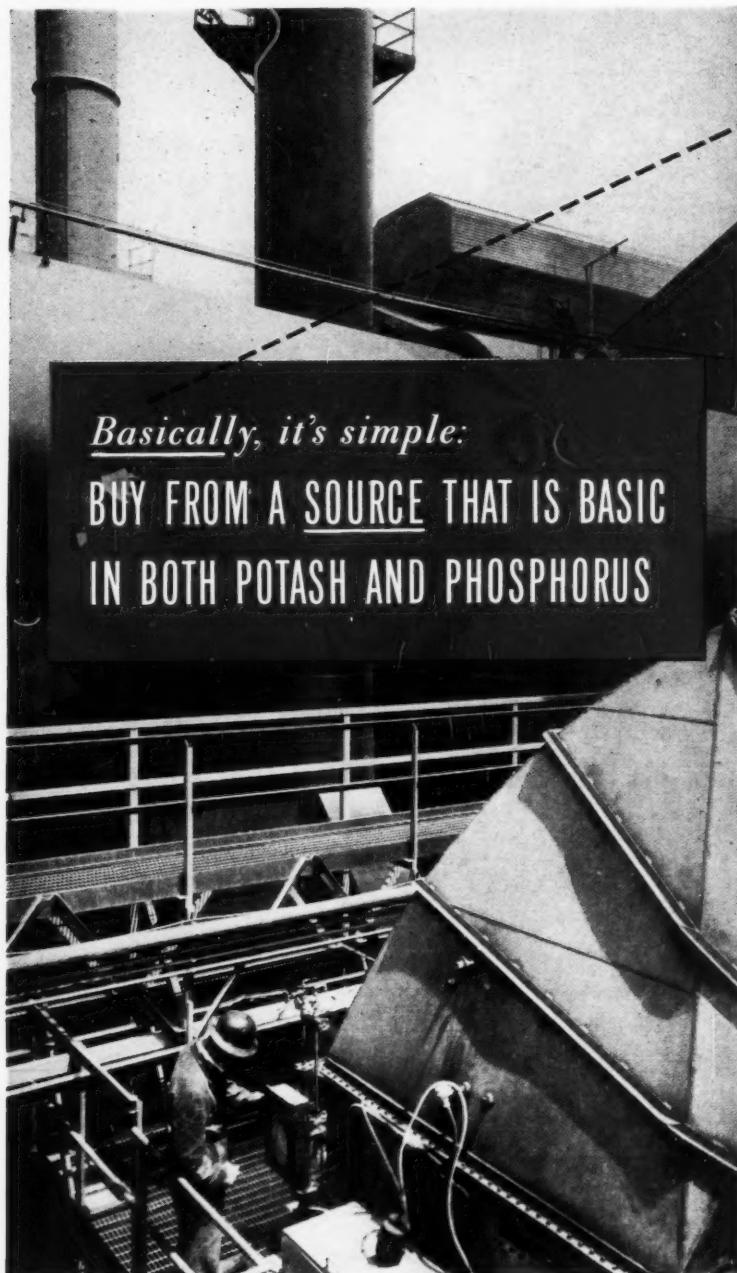
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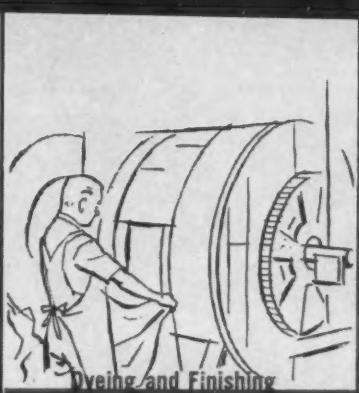
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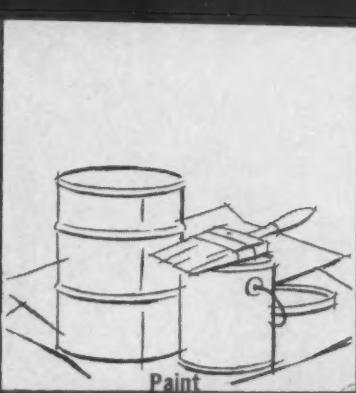
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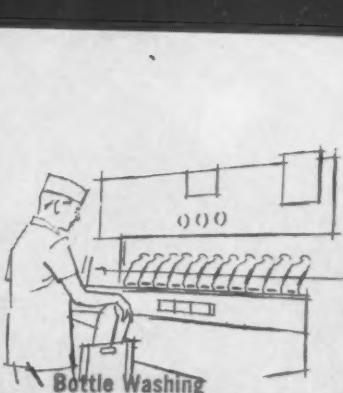
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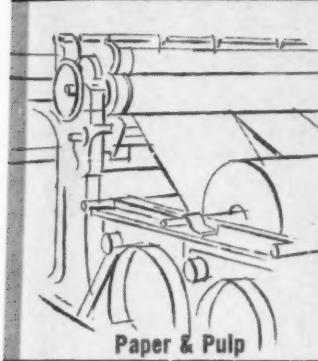
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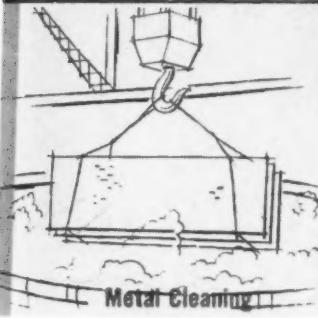
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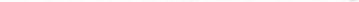
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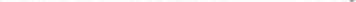
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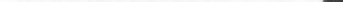
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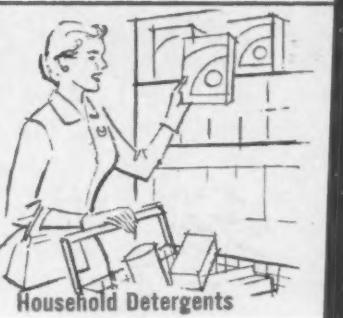
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After Closing

Vaughn Joins Pabst

Dr. Thomas H. Vaughn has been named vice-president of Pabst Brewing Co., Milwaukee, Wisc., it



Thomas H. Vaughn

was announced recently. Dr. Vaughn resigned on Nov. 1 as vice-president in charge of research and development of Colgate-Palmolive Co., New York. Dr. Vaughn is the second C-P executive to join Pabst in recent months. About a year ago Marshall S. Lachner, also a vice-president, resigned to become president of the Milwaukee firm.

Dr. Vaughn served with Colgate for exactly three years. He resigned a similar position on Nov. 1, 1953, at Wyandotte Chemicals Corp., Wyandotte, Mich., to accept the Colgate post.

New Anchor Plastic Tubes

A new extruded plastic packaging tube, designed for items where spirally wound paper tubes cannot be used, was introduced recently by Anchor Plastics Co., Long Island City, N. Y. The new tubes range in sizes from one-sixteenth of an inch to three inches in diameter and are said to have smooth inside and outside surfaces which will not catch or snag delicate items packaged in them. Trademarked "Ancorene," the tubes can be easily cleaned and come in

a variety of colors for coding purposes. Further information can be obtained from the company, 36-36 36th St., Long Island City, N. Y.

—★—

"Breeze" Promotion

Lever Brothers Co., New York, recently announced a substantial increase in the advertising budget of its "Breeze" detergent. The 1957 promotion campaign, reported to be the largest in the product's history, commenced with a ten cents coupon advertisement in January 13 Sunday supplements throughout the nation. The promotion is also being supported by a trade display allowance. According to David Bland, product manager, "Breeze" is also offering a premium in its giant and large size boxes. A pastel striped Cannon kitchen towel comes in the giant-size carton, while a pastel face cloth is packed in the large size box.

—★—

Beach Appoints Hooper

Beach Soap Co., Lawrence, Mass., recently appointed Edward M. Hooper as sales representative in four southern states. Mr. Hooper will sell and service the Beach line of washroom supplies in North Carolina, southwestern Virginia and eastern Tennessee. Having completed the firm's course in com-

Edward M. Hooper



mercial and institutional laundering, Mr. Hooper will render technical service on washroom problems.

—★—

EOA Re-Elects Coutin

Pierre J. Coutin of Ph. Chaleyer, Inc., New York, was re-elected president of the Essential



Pierre Coutin

Oil Association of the United States at the annual meeting and dinner held at the Savoy-Plaza Hotel, New York, Jan. 4. Gert Keller, Schimmel & Co., New York, and Frank Dittrich, Ungerer & Co., New York, were renamed vice-president and secretary, respectively.

In addressing the group, Mr. Coutin reported that oils are at a generally higher level today than a year ago. He said, "seed and spice oils have shown strength; bergamot and lavender are firm; while sassafrass and the safrol products are down." He added that difficulties resulting from the blockade of the Suez Canal did not have any appreciable effect on business.

The association's scientific section approved three revised specifications and six corrective revisions for aromatics and flavors. Among the products whose standards were more clearly defined are ethyl butyrate, isobutyl phenyl acetate and aldehyde C-8. The section also announced that C. Grimm of Polak & Schwarz, Inc., New York, had become a member of the scientific committee. Mr. Grimm recently had been working on revised

specifications for trichlorophenyl methyl carbonyl acetate.

Named to the executive committee were R. E. Hoisey, Givaudan-Delawanna, Inc., New York; C. P. Walker, van Ameringen-Haebler, Inc., New York; M. Lemmermeyer, Aromatic Products, Inc., New York; John Cassullo, Fritzsche Brothers, Inc., New York; and George McGlynn, Magnus, Mabee & Reynard, Inc., New York. The nominating committee was composed of Mr. McGlynn, Waldo Reis, van Ameringen-Haebler and Hans Wesemann, Fritzsche Brothers.

—★—

Larsen Forms New Firm

Formation of Quintessence Laboratories, 6 Varick St., New York 13, was announced recently by Norman C. Larsen, founder and president of the new company. Quintessence will manufacture flavor extracts, essential oils and aromatic chemicals.

Dr. Larsen was formerly vice-president and director of the Jersey City, N. J. plant of Stuart Brothers, Ltd., a Canadian essential oil firm. Prior to that he served as chief chemist of the flavor research division of Polak & Schwarz, Inc., New York, and assistant chief chemist of Norda Essential Oil and Chemical Co., New York.

—★—

Shell Personnel Shifts

Shell Chemical Co., New York, announced last month some changes among its plant production men at its Denver, Colo., Houston, Tex., and Norco, La., plants. H. E. Hughes, superintendent of Shell's Houston plant was appointed manager of the Denver plant, succeeding J. G. Bejarano, who died recently. J. W. Hyde, Mr. Hughes's assistant at Houston was named superintendent of that unit. F. G. Watson, assistant vice-president of manufacturing, has been appointed assistant manager of manufacturing development and C. H. Plomteaux, assistant superintendent of the firm's Norco plant, has been named to replace Mr. Watson as assistant vice-president of manufacturing.

Fambrough in New Post

Wallace Fambrough has been appointed southern sales representative of Baird & McGuire, Inc.,



Wallace Fambrough

Holbrook, Mass., it was announced recently by Gordon M. Baird, president. In his new post, Mr. Fambrough will represent the firm's line of insecticides, disinfectants and cleaners in North and South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana and Tennessee. For the past 11 years, Mr. Fambrough has served as a manufacturer's representative in the South.

—★—

"Freon" from Antioch Plant

E. I. du Pont de Nemours & Co., Wilmington, Del., recently announced delivery of the first bulk shipment of "Freon" propellant, made at its Antioch, Calif., plant. The 3,700 gallon shipment went to the Los Angeles plant of G. Barr &

First truckload shipment of "Freon" leaving new Kinetic Chemicals Division plant of E. I. du Pont de Nemours & Co., Antioch, Calif.



Co., Chicago pressure packaging firm.

"Freons 12 and 13" are currently being produced at Antioch. Other fluorinated hydrocarbon propellants are being shipped to Antioch and repackaged for west coast distribution. Other "Freon" plants are located at Deepwater Point, N. J.; Louisville, Ky.; and East Chicago, Ind. Du Pont of Canada, Ltd., operates its own "Freon" facilities at Maitland, Ont.

—★—

Color Lithography

Uncle Sam Chemical Co., New York, recently announced the addition of color applied lithography to its private label packaging operations. Minimum quantities of any one item to be so labelled is 150 one gallon cans and 50 five gallon pails. There is a minimum initial charge for making plates and furnishing art work. The actual application, however, is done at no cost to the customer. Further information can be obtained from the company, 573-577 West 131st St., New York 27.

—★—

Calgon Merger

Calgon, Inc., Pittsburgh, a subsidiary of Hagan Chemicals & Controls, Inc., Pittsburgh, formerly Hagan Corp., has been merged with the parent company and will be operated as a division, it was announced recently. Calgon manufactures household and industrial water conditioners and cleaning products.



Chemical specialties take to the air as Winston B. Smillie, (extreme left) president of Piatt & Smillie Chemicals, Inc., accepts keys for firm's newly purchased Piper Apache from Tom Connelly, second from left. Looking on are Mrs. M. P. Smillie and David L. Smillie. Company also has Beechcraft Bonanza plane flown by R. Edward Oldfather, shown below.

Oldfather in New Post

R. Edward Oldfather has joined Piatt & Smillie Chemicals, Inc., St. Louis, as southwestern regional manager it was announced recently by Leo H. Konzen, field service coordinator. In his new post, Mr. Oldfather will represent the firm's line of industrial sanitary chemicals in the southwestern and central plains states. He will utilize the company's Beech Bonanza, a single engined, four place aircraft, in developing this area. Mr. Oldfather formerly was a flight instructor for private and commercial aircraft at Lambert Field, St. Louis. He previously had been associated with A. S. Aloe Co., St. Louis, as sales representative from 1930 to 1942, and with Ely Walker Co., St. Louis, as executive pilot. According to Mr. Konzen, Piatt & Smillie recently initiated a program of air travel to increase the flexibility and mobility of its sales organization.

Oronite Sales Reps.

Three appointments in the eastern sales division of Oronite Chemical Co., San Francisco, were announced recently. The appointments were the result of the firm's division of its eastern region into two sales districts. E. J. Van Buskirk



R. Edward Oldfather

has been appointed head of the northeastern district while B. W. Colaianni has been named manager of the southeastern district. J. H. Selby has been appointed manager of special accounts for the entire division.

Mr. Van Buskirk will headquartered in New York and will supervise the firm's sales program in New York, northern New Jersey, the New England States, and eastern Canada. Mr. Colaianni, who will headquartered in Wilmington, Del., will handle company operations in southern New Jersey, eastern Pennsylvania, and the entire southeastern portion of the country.

New Armour Stearic Acid

A new stearic acid, designed for use in the manufacture of soaps, cosmetics, candles and related specialties, was introduced recently by Armour and Co., Chicago. Trademarked "Neo-Fat 18-54," the product is claimed to have a high color stability. Its characteristics include low unsaponifiables, low ash content, uniform crystalline structure and controlled iodine value. Further information and samples can be obtained on request from Armour Chemical Division, 1355 West 31st St., Chicago 9.

Armour Advances Two

W. F. Sindewald has been appointed chemical sales representative of Armour and Co., Chicago, in four eastern states, it was announced recently by B. W. Graham, sales director of the chemical division. Mr. Sindewald succeeds E. C. Garver, who has been named to the newly-created position of sales manager of fatty acid derivatives in special applications.

Mr. Sindewald will cover Philadelphia, Maryland, Delaware and parts of New Jersey. He formerly worked in the control laboratory and did work on sales promotion of fatty acids. Prior to joining Armour in 1954, Mr. Sindewald was a chemical manufacturer, specializing in soap and aerosol products. Mr. Garver joined Armour in 1950 as a chemical salesman and later was in charge of sales promotion of a line of fatty acid derivatives.

W. F. Sindewald



Standard Drops Specialties

Standard Oil Company of Indiana, Chicago, has discontinued the sales and manufacture of its small package goods line of chemical specialties, it was learned recently. Standard formerly made and marketed a line of insecticides, including aerosol dispensed types, waxes and polishes and related chemical specialty items.

—★—

Semet-Solvay Names Two

Appointments of Frank M. Norton and H. E. Imes as vice-president and director of operations, respectively, of Semet-Solvay Division of Allied Chemical & Dye Corp., New York, were announced last month.

Formerly assistant vice-president, Mr. Norton joined Semet-Solvay in 1933, and became production manager of the petrochemical department in 1952.

Mr. Imes joined the company in 1922 as a chemist at the Ironton, O., coke plant. In his new post, he will supervise expansion and development of the firm's line of coke and polyethylene products.

—★—

AP&CC Names Holt

Benjamin M. Holt has been named to the newly-created position of project director of the planning and development department of American Potash & Chemical Corp., Los Angeles. The announcement was made last month by Daniel S. Dinsmoor, vice-president of the department.

—★—

Rubber Floor Tests

The rubber flooring division of the Rubber Manufacturers Association, Inc., 444 Madison Ave.,

Seated on dais at annual Christmas meeting of the T.G.A. held last month in New York are: (left to right) Neva Bradley, Daggett & Ramsdell, Inc.; Peg Burrow, Oxzyn Co.; Lilly Dache, president, General Beauty Products; Kay Colton, Morningstar-Nicol, Inc.; M. Constance Breck, John H. Breck & Co.; and Florence E. Wall, consultant.



New "Gayla" translucent green soap of Lever Brothers Co., New York, is now being test marketed in several upstate New York cities. Foil wrapped, "Gayla" comes in bath and hand sizes to retail at 2 for 29 cents and 3 for 29 cents respectively.

New York 22, recently announced a testing period for cleaners and polishes which may be approved by the association for use on rubber floors. The testing period will ex-

pire Feb. 28. The products will be tested by Skinner & Sherman, Boston, who will analyze them in accordance with RMA specifications. Products fulfilling RMA requirements will appear on its new list of approved cleaners and polishes to be published in May. Further information may be obtained from the association.

—★—

Metalsalts Names Fallon

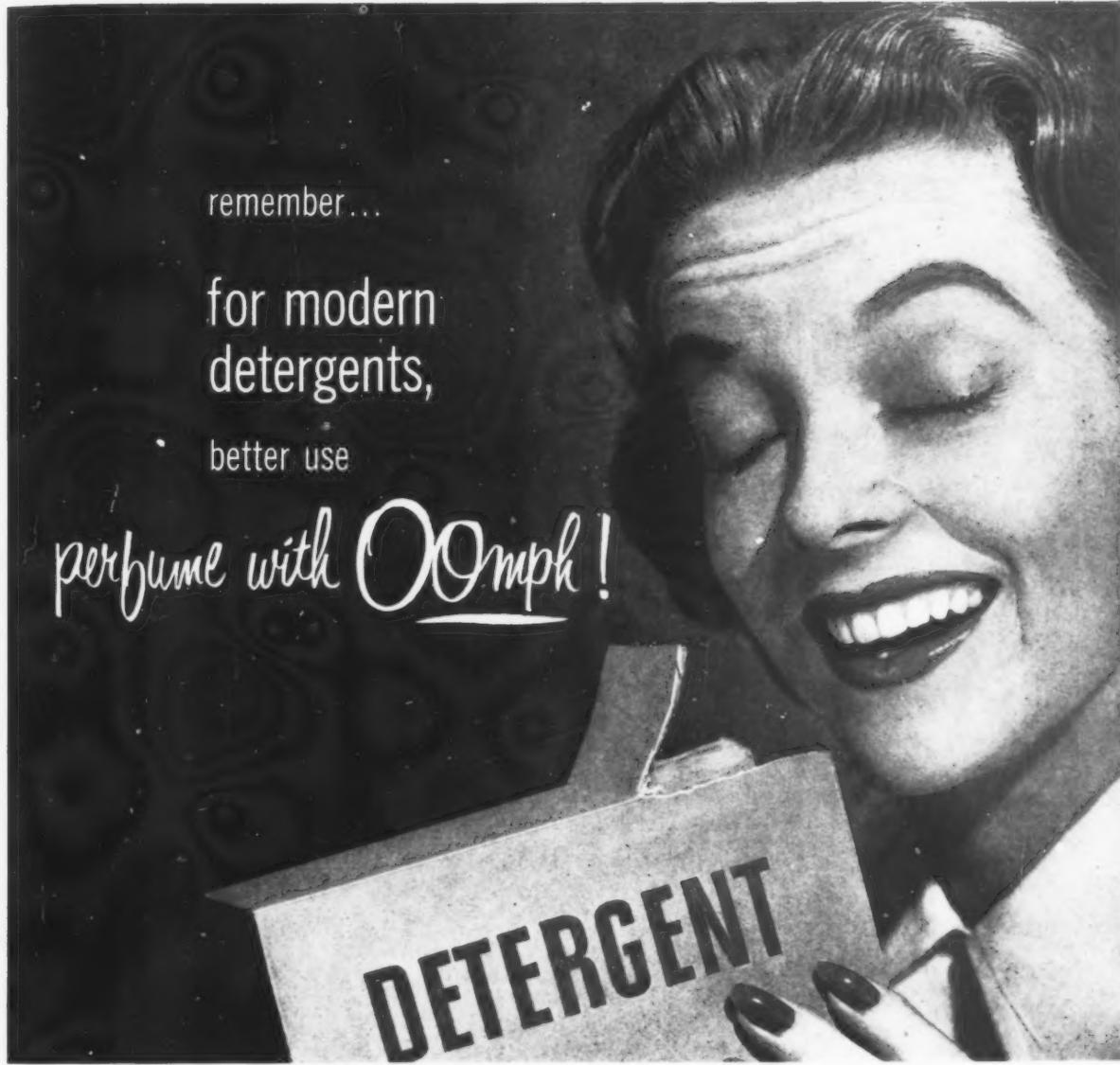
Appointment of Raymond J. Fallon as assistant sales manager of Metalsalts Corp., Hawthorne, N. J., was announced last month by Frank C. Johnson, sales manager. In his new post, Mr. Fallon will supervise the sales of "Meta-San" phenyl mercuric propionate, an additive designed to control bacteria and fungi in all types of organic coatings.

Raymond J. Fallon









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A special 100% active fatty acid alkylolamide (a

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T6-A T6-B

Both products are alkanolamides,

100% active and nonionic in character. T6-A is recommended for use in bubble bath preparations for its fine foam stabilizing in the presence of soap. T6-B is recommended for use in clear and lotion type shampoos as a good thickening agent and auxiliary detergent with some emollient action.



HDA-7

A heavy duty alkanolamide with a built-in coupling agent which permits a very

high phosphate tolerance (as much as 11% on an anhydrous basis). Here is the product to investigate if you are looking for a heavy duty all-purpose hard surface cleaner with a lot of punch. Does an excellent job of wax stripping without harmful effect on floor.



ADT

A low sudsing, special, 100% active fatty acid alkanolamide. It is nonionic in character. ADT is highly recommended for use in formulating liquid scrub soaps. Among its advantages, it can eliminate the use of a coupling agent, has high viscosity and performs unusually well in hard water.



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A 100% active alkanolamide.

Essentially nonionic in character with good alkaline stability. Specially recommended for use in textile scouring, dye leveling and similar applications. S-86 provides good detergency for both cotton and wool. S-86, in addition, also offers some advantages for use as a stabilizer and thickener.

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	Regular Distilled	157 Min.	18-24	6 Max.	197-204
	SM-500	152 Min.	18-24	10 Max.	195-204
SOYA	Water White Distilled	135 Min.	20-23	2 Max.	195-205
	RO-10	124 Min.	23-29	5-6 Max.	195-205
	RO-11-S	124 Min.	23-29	4 Max.	195-205
SOYA-TYPE	RO-8	115 Min.	30 Max.	6-8	195-205
COTTONSEED	Double Distilled	95-110	32-38	8 Max.	195-205
CORN	Double Distilled	105-120	26-32	8 Max.	195-205

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JANUARY, 1957

...about detergents

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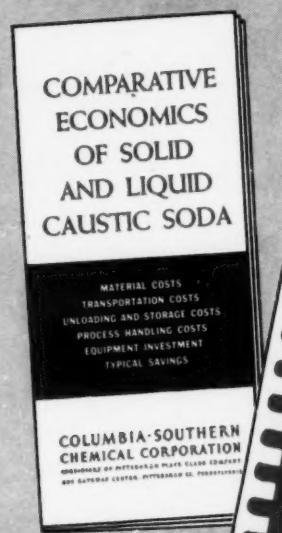
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Providence 3, R.I., 15 Westminster St., Elkhorn 3-3000

Richmond 19, Va., 8 North Fifth St., Elkhorn 2-1939

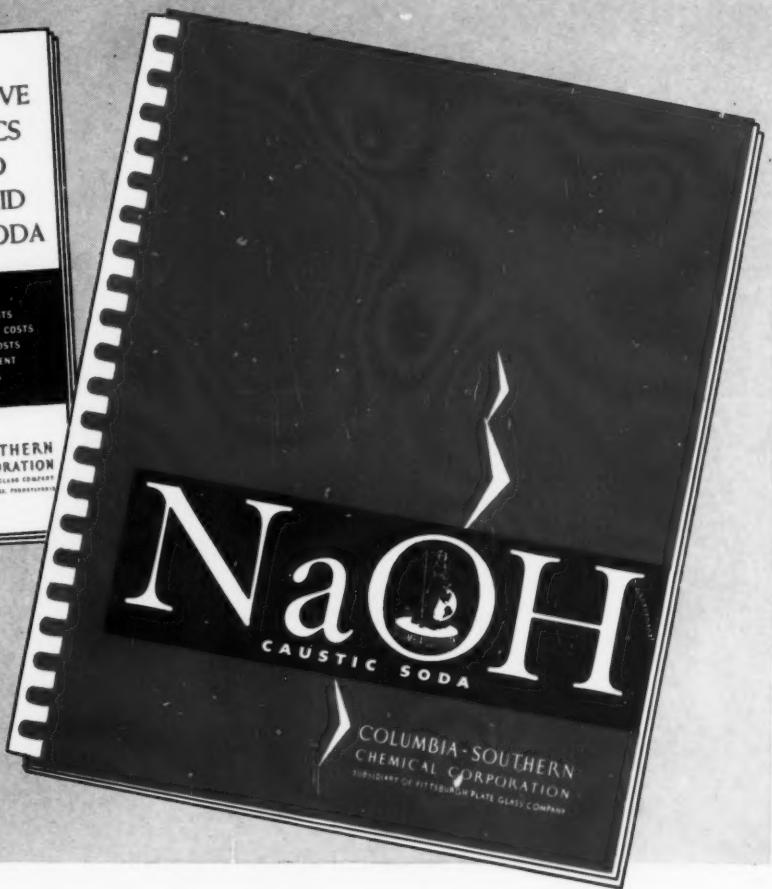
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Limited and its Commercial
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... in brief

as the editor sees it . . .

 LIQUID DETERGENTS . . . For the first nine months of 1956, liquid detergents as a class showed a spectacular sales expansion. The increase over the same period in 1955 was 82 per cent. This is shown by the figures of the Soap Association. There is every reason to believe that this market expansion by liquids continued through the fourth quarter of 1956 at a rate equal to the first three quarters. About 80 per cent of all these liquids sold went into the household market in small packages. This indicates that Mrs. McGuff, the American housewife, and not the textile or metal cleaning industry, was the real buyer of the increased production. Apparently, liquid detergents, in spite of their higher cost, are receiving her wholehearted acceptance.

Extending the Soap Association figures, some 260,000,000 pounds of liquid detergents were sold in 1956. This includes both light and heavy duty liquids and is a far cry from the figures of even three years ago. Most significant is the widespread consumer acceptance in spite of certain shortcomings of some products. And we have a feeling that this expansion trend will continue. Yes, sir, the character of the "soap" business sure is changing.

* * * * *

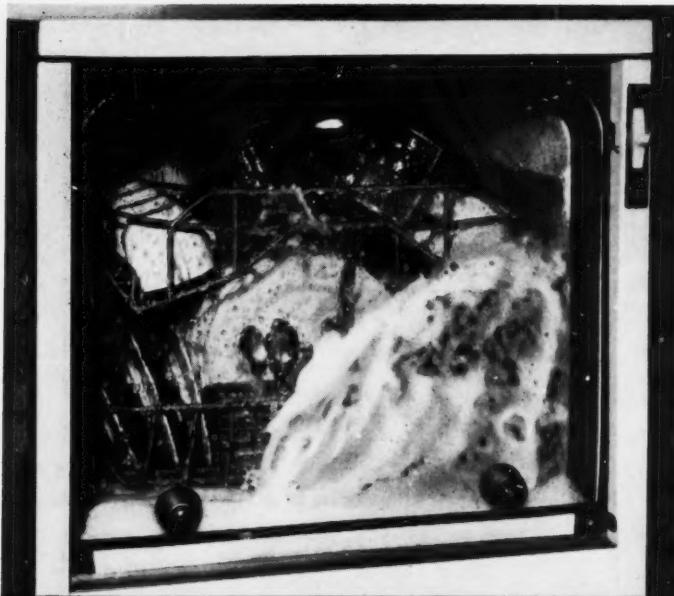
 AEROSOL FILLING . . . Over the past few years, prices for custom filling of aerosols have declined steadily. In fact, at times, it would seem that any profit in custom filling had long since gone by the board. But in one sense, lower prices have presented something of a barrier to new entrants to the field and have protected fillers against merchandisers doing their own filling. Not so long ago, an aerosol mar-

keter with an annual run of 5,000,000 units could afford to install his own equipment. Today, the figure is 20,000,000 units. In other words, it is not economic for anybody with a run less than this latter figure to do their own filling. Accordingly, the average filler finds himself sort of between the devil and the deep blue sea. His profits are cut to the bone, but the threat of new competition, forever present a year or so ago, has been greatly lessened. At current prices, aerosol filling is not exactly an open invitation to new capital.

* * * * *

 BRAKE FLUIDS . . . In some parts of the country, sub-standard quality brake fluids are being sold freely. Most are labeled as meeting Society of Automotive Engineers specifications when in fact they don't even come close. Naturally, they pose a tough competitive problem for the legitimate manufacturer of standard products, especially when they are sold in states with regulatory laws which are not enforced. The states simply do not seem to be cracking down on these offenders, possibly because of insufficient enforcement personnel.

Obviously, the various states should run these bootleg products off the market. They are an added menace to our already overcrowded highways, not to mention the economics of the situation, their effect on the marketer of standard products which meet specifications. But what to do? We feel that it is the duty of every legitimate manufacturer to his own business to turn these bootleggers in to various state enforcement agencies. If he does not want his identity known, then do it anonymously, but do it. The sooner these low-grade fluids are off the market, the



Conventional low-foam Detergent

Notice excessive foam 3 minutes after beginning of wash cycle.



TRITON CF-10

Notice how suds are controlled (after same length of time) for better dishwasher operation.

TRITON is a trade-mark, Reg. U.S. Pat. Off. and in principal foreign countries.

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Detergents containing TRITON CF-10 do not foam excessively even when violently agitated. The result is that automatic dishwashers can do their job better, and kitchenware rinses clean without streaks or spots. At the same time, TRITON CF-10 has such excellent detergent properties that it effectively removes soil from the hardest-to-clean plastic ware. Investigate TRITON CF-10 for your cleaning compounds today.



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 **GLYCERINE . . .** If refining costs of soap kettle glycerine continue to mount as they are doing right now, any chance of lower glycerine prices from this direction appear nil. In fact, the reverse seems likely. Fuel oil costs have risen and are still moving upward. This is boosting evaporation costs sharply, not to mention rising water costs for cooling operations. They tell us that to bring 6 per cent sweet-water up to 80 per cent crude can cost refiners anywhere from ten to twelve cents per pound under present conditions. With laundry soap-making operations still shrinking and with toilet soap output threatened by a further invasion of synthetics over the next year or two, soap kettle glycerine appears to be fading steadily out of the picture. With a rise in synthetic glycerine output, it would appear that it is only a question of time before the synthetic material completely dominates the market if such is not already the case.

* * * * *

 **OBSOLETE . . .** During the past five years, millions of dollars worth of soap manufacturing equipment has become obsolete. The displacement of laundry soaps to a great extent by detergents has been chiefly responsible. New and entirely different equipment has been needed for detergent manufacture. Many soapers in keeping abreast of changing conditions have spent a lot of money on new equipment which in effect added little or nothing to their total sales volume. The choice was a simple one—either revamp their plants and products or drop behind in the detergent sales rat race.

In 1956, a few old-time soapers chose to go out of business rather than put up the money to change their way of life. They found that it became ever more difficult to sell soaps in com-

petition with detergents, so they closed up shop. As we start into another new year, others could follow if they still steadfastly refuse to recognize the sweeping changes which have taken place. In the next year or two ahead, this revolution in the industry may envelop toilet soaps. They too could join the parade of obsolescence.

As we look back over the years and contemplate the situation, we feel that the next decade will bring continued change to an industry which until recently never changed its ways for over two hundred years. Those who will survive must keep abreast of new conditions. Those who don't will drop by the wayside.

* * * * *

 **EXCLUSIVE? . . .** Should the manufacturer of chemical specialties selling through jobbers give "exclusives"? Or should he sell to all comers, regardless of whether two competitive jobbers cover the same territory? This question is constantly being put to specialties manufacturers, and unfortunately there is no pat answer to it.

Unless he be given a guarantee that a jobber can and will move a certain volume, there would seem to be no point in a manufacturer tying himself up on an exclusive basis. Even if such a guarantee is agreed to by the jobber, how can the manufacturer be sure a quota can be met? If such an agreement runs for a year and the jobber fails to live up to his end of it, the manufacturer loses more than time. Chances are other distributors in the area know about the exclusive arrangement. Selling them on a line which has previously been denied them is a tough job. If the product was new when the original agreement was made, it won't be by the time the manufacturer finds out he has made a mistake.

All other things being equal, maximum distribution through the widest number of jobbers would seem to be the manufacturer's best bet—if he can lick the credit problem and keep price cutters in line. In these days of rising costs and shrinking profits, sales must be expanded. Protection of the distributor is strictly secondary.

Ultrawet formulations clean quicker, sell faster

Name any number of best-selling detergents and you'll find that most of them use Atlantic Ultrawets. Formulations made with Atlantic Ultrawets do a better cleaning job because they are tailored to meet the compounders' specific needs; they sell faster because they do the job efficiently and easily.

The high performance characteristics of the Ultrawets afford maximum economies while maintaining formulation quality. For further economy, deliveries of Atlantic Ultrawets can be made at significantly lower prices in tank car or bulk quantities.

Ask us for detailed information on the Ultrawets. Our experienced sales engineers will gladly help you develop a formula of your own—for any cleaning need. Write or wire The Atlantic Refining Company, Dept. 44, at the nearest office listed.

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Antwerp, Belgium

In South America
Atlantic Refining Company
of Brazil, Rio de Janeiro

as the reader sees it...

Midwestern Makes Nu-Nap

Editor:

Thank you for publishing the article on the new cleaning kit, which appeared on page 41 of your November issue.

It has been brought to my attention, however, that this article stated that the product was manufactured by the du Pont Company. As stated in our release, which is enclosed, the "Nu-Nap" cleaner is manufactured by Midwestern Distributors, 7420 Bennett, Chicago 49, Ill.

Since this error has resulted in some confusion among some of our customers, we would appreciate any steps you might take to correct the impression that this cleaner is a du Pont product.

JACK BURCHENAL

Product Information Service
E. I. du Pont de Nemours, Inc.
Wilmington 98, Del.

ing time to try to get facts is really too costly. There it is, Mr. Reilly. I leave it entirely in your hands. I have that kind of day too, so I know how you feel.

O. M. Gale, manager
Public Relations Dept.
Procter & Gamble Co.
Cincinnati 1, O.

Such sharp eyes. This omission got through several proof readers in this office and at the printer's. No wonder P&G is such tough competition.—Ed.

— ★ —

F-T or Not to F-T

Editor:

In connection with the publication of your article "Wax From South Africa" (*Soap and Chemical Specialties*, December, 1956) we find that improper use has been made of our registered trademark "F-T." This can be used only in connection with mineral waxes sold by our firm.

Furthermore, your article contains erroneous statements designed to confuse the public and reduce our possibilities of selling the F-T waxes.

For example, in one paragraph you mention very cheap prices for South African materials directly stressing this factor as an advantage over "similar products." In the next paragraph you directly state that the South African waxes are "physically similar to F-T waxes produced in Germany."

This creates the impression that really our F-T waxes are not

such a good bargain. We consider this a matter of unfair publicity and competition, and if we would engage in a similar practice, we would probably be hailed into court the next day. But it is not even factually correct, because there is still a substantial margin of hardness, melting point and molecular weight distinguishing our FT 300 from the South African material.

Partly this is due to the method of manufacture and the location of the plant. The Krupp plant lies within very close proximity to the source of catalysts. This enables the Krupp plant to work with a large number of relatively small reactors which are successively charged with catalyst (a rather complicated process which takes place under high vacuum). Thus, the overall balance of catalyst exhaustion can be equalized at all times by interblending the reactor output so that the end product remains absolutely uniform. The South African refinery, on the other hand, depends on a small number of large reactors, probably because it is so far away from the source of catalysts. It is a

(Turn to Page 52)

Never Severed

Editor:

I don't know what the dickens we do about this, but between the two of us I think we have something of a blinger.

You were good enough to give generous space in your December magazine to the talk Mr. J. G. Pleasants gave recently in Cincinnati on the subject "The Public be Pleased." A good job of cutting was done, and we have nothing to complain about . . . except one little word was omitted. Unfortunately, it seems to be a fairly important word.

The sentence (at the bottom of the middle column on page 45) as delivered was "And our experiences have never revealed the will of our public as so impatient that the taking of time to try to get facts appeared too costly." The word omitted was the word "never." You will note that this had us saying that our experiences show that tak-

The Neighbors

By George Clark



"I don't remember the name of the soap. On the TV commercial some little clowns dance in like this."



Alkalis made to measure!

WESTVACO®

CAUSTIC SODA

Liquid 73%

Liquid 50%, Regular
and Low — Chloride Grades
Flake, Solid and Ground, 76% Na₂O

CAUSTIC POTASH

45 and 50% Liquid — Flake and Solid

SODA ASH

Refined, Light and Dense
Natural, Light and Dense

Westvaco alkalies are engineered to meet the user's needs. For each alkali produced, statistical determinations are made of the allowable quality variations. Rigid limits are set on key variables known to be of vital concern to the customer. Strict controls over processing maintain these standards and each shipment is analyzed to make sure it meets specifications.

The customer is always assured of uniform, top quality. Moreover, he knows exactly what he is getting in every shipment.

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Detergents . . . Cleansers . . . Soaps . . .

Aerosols
Detergents
Dishwashing compounds
Floor scrubs
Glycerine
Hand cleaners
Laundry soaps
Liquid soaps
Metal cleaners
Potash soaps
Scouring cleansers
Shampoos
Shave products
Soap powders
Starch
Steam cleaners
Medicinal soaps
Textile detergents
Toiletries
Toilet soaps
and other detergent
and soap products

Spacious main floor of the Procter & Gamble Co. headquarters building in Cincinnati, which was dedicated January 7. Rising 17 feet from blue limestone floor are various types of marble walls. More pictures and description of building on Pages 38-40.



There's fragrance in her washer!

Your detergent scented with

Givaudan TERGESCENTS®



Give your powdered household detergents the odor-appeal that builds sales, wins consumer loyalty... with Tergescents, the fragrances specially developed for that purpose!

Powerful and highly appealing, these inexpensive perfumes are effective at ratios of from 1/20 to 2/10 of 1%—depending on your product's use.

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Dr. Leroy Burney



Milton Harris



William M. Martin

Soap Industry Meeting Jan. 23-25

THE growing importance of research as it applies to soaps, detergents and related products will be underlined in a number of papers and discussions during the 31st annual meeting of the Association of American Soap & Glycerine Producers at the Waldorf-Astoria Hotel, New York, Jan. 23-25. Taking as its theme, "Pioneering Pays", this year's three-day meeting will follow the pattern of those of recent years with joint or individual sessions of the industrial, fatty acid, and glycerine divisions. Two general sessions are scheduled during which the president's address and review of the year will be presented by E. B. Os-

Research theme to be stressed at 31st annual meeting of the Association of American Soap & Glycerine Producers. Industrial, glycerine and fatty acid divisions will hold sessions.

born of Economics Laboratory, Inc., president of the association. Mr. Osborne's talk will be followed by a discussion of the business outlook for 1957 by Roy L. Reierson, vice-president, Bankers Trust Co. The figures on soap sales in grocery stores will be given in a presentation by Burton W. LeVee, vice-president of A. C. Nielsen Co. The first of the two general sessions will be held Thursday morning, Jan. 24, when the three talks mentioned above will be given.

The second and final general session will be held Friday morning, Jan. 25. It will feature two product case histories, a discussion of detergent research on water and sewage treatment problems, a review of the association's cleanliness promotion activities, and a talk on "Making Product Research Pay".

Two group luncheons will feature an address on "Money Policy" by William McChesney Martin, Jr., chairman of the board of governors of the Federal Reserve

Roy L. Reierson



Wheeler McMillan



E. B. Osborn





Neil H. McElroy



Roy Peet



Scott Pattison

System, on Thursday, Jan. 24, and a report on "Cleanliness and Health" by Dr. L. E. Burney, Surgeon General, U. S. Department of Health, Education and Welfare, during the Friday, Jan. 25th luncheon. The annual association business meeting follows the luncheon. At the meeting, reports of the association manager, the treasurer and the nominating committee will be presented by Roy Peet, Nils S. Dahl of John T. Stanley & Co., and A. W. Schubert of Emery Industries, Inc., respectively. The election of the 1957 board of directors concludes the business meeting, which is followed by a meeting of the board.

Industrial Div. Meeting

THE various groups within the industrial division gather the morning of Wednesday, Jan. 23, the first day of the three-day convention. Set to meet are the skin cleaning, building and equipment maintenance, and fabric cleaning groups. Frank J. Pollnow, Jr., president of Vestal, Inc., St. Louis, industrial division chairman will preside. The skin cleaning group, under the chairmanship of E. Randa of Armour & Co. will hear a "Publicity Report" by Henry T. Rockwell, president of Jones & Brakeley, Inc.

The building and equipment maintenance group will review the proposed maintenance handbook. Earl Brenn of Huntington Laboratories, Huntington, Ind.,

is chairman of the group.

The fabric cleaning group, under the chairmanship of Jay C. Harris of Monsanto Chemical Co., St. Louis, will hear a panel discussion of "Detergent Practices as Affected by New Textile Fibers, Fabrics and Dishes." Members of the panel will include Doris Hanson of McCall Publications, Hector Borghetti of Rohm & Haas Co., and George M. Gantz of Antara Chemicals Division of General Aniline & Film Corp. Officers of the industrial division and its various groups including dishwashing, food processing and industrial processing, will be elected at the meeting.

Following a meeting of the technical advisory committee at 10:30 a.m., Jan. 23, presided over by F. J. Coughlin of Procter & Gamble Co., chairman, there will be a joint luncheon of the fatty acid and industrial divisions and the technical advisory committee.

Wheeler McMillan, executive director of the President's Committee for Increased Industrial Use of Agricultural Products, will be the luncheon speaker.

The fatty acid division meeting, which also begins at 10:30 a.m., Wednesday, Jan. 24, will be presided over by Felix E. Lacey of Armour & Co., division chairman. The morning session will feature a business meeting, the rendering of committee reports and the election of officers.

The afternoon of the same day the fatty acid division will hear

four talks: "The Exclusion Chart—New Tool for Pricing Chemical Derivatives", by Herman W. Zabel, executive vice-president of Roger Williams Technical & Economic Services, Inc.; "Research from Now On", by William L. Swager, Battelle Memorial Institute; "European Developments in Fatty Acid Production" by Ralph W. Potts, Armour Chemical Division, Armour & Co., and "Trends in Industrial Soaps and Resins Affecting Fatty Acid Usage", by Russell Young, Davies-Young Soap Co., Dayton, O.

The concluding event of the first day is a reception and cocktail party for which *Soap & Chemical Specialties* magazine is host.

The Glycerine Division meeting gets underway at 11:00 a.m. the morning of Thursday, Jan. 24. W. W. Bray, Procter & Gamble Co., chairman, will preside. A report on glycerine promotion and the division manager's report precede a business meeting and the election of officers. The division re-convenes immediately following luncheon. Three papers are scheduled to be presented: "Glycerine in Alkyd Resins" by George R. Somerville, Shell Chemical Co.; "Glycerine in Pharmaceuticals", by Frank J. Steele, Greenwich Hospital, and "Glycerine in Cellophane", by Thomas H. Derby, American Viscose Corp.

A social event, the washable cotton fashion show, at which the "Maid of Cotton for 1957" will be



William G. Werner



Daniel H. Terry



Frank Coughlin

introduced, concludes the formal activities of the second day of the meeting.

General Session

THE general session, opening the final day of the meeting, Friday, Jan. 25, is preceded by a convention breakfast sponsored by *True Story* magazine. The session, presided over by T. G. Hughes, president of Oronite Chemical Co., will hear five papers. These include: "Detergent Research on Water and Sewage Treatment Problems", by Henry V. Moss of Monsanto Chemical Co., and vice-chairman of the technical advisory committee of AASGP. "How the Association Promotes Cleanliness" will be discussed by William G. Werner of Procter & Gamble Co. Milton Harris of Gillette Co. and president of Harris Research Laboratories, will speak on "Making Research Pay". Two product success stories conclude the meeting. The story of "Ban" personal deodorant will be presented by J. J. Clarey, vice-president in charge of product development, Bristol-Myers Co., and Dr. Daniel H. Terry, vice-president of Bon Ami Co., will discuss the development and marketing of his firm's new aerosol surface cleaner, "Jet-Spray Bon Ami".

Presiding at the final luncheon of the meeting will be Neil H. McElroy, president of Procter & Gamble Co. He will introduce the luncheon speaker, Dr. L. E. Burney, Surgeon General, U. S. De-

partment of Health, Education and Welfare, who will speak on "Cleanliness and Health".

The annual association business meeting, presided over by AASGP president, E. B. Osborn, immediately follows the luncheon.

Soap Association Cleanliness Survey

MORE than one-quarter of the nation's industrial workers face daily exposure to skin irritants, it was reported in a survey recently conducted by the Association of American Soap & Glycerine Producers, Inc., New York. The survey, which covered 141 major manufacturing plants, employing 429,000 workers, also revealed that of the workers exposed daily to potential irritants, nine percent actually contract some form of skin trouble resulting in lost man hours.

The survey stated that oils, greases, chemicals, solvents, acids, alkalies and cleaning agents comprise nearly 60 percent of the potential irritants reported. Production and processing departments were listed as work areas with the highest irritation potential. Over one-third of the companies polled, reported that employees were most likely to suffer skin irritations within the first 30 days on the job.

Plants employing 500 and under, show a greater percentage of employees, (36 percent as compared with the 28 percent average figure), facing exposure to potential irritants. Of the plants included

The concluding event of the day and the meeting will be the reception at 6:30 p.m. and the annual banquet and entertainment in the grand ballroom beginning at 7:30 p.m.

in the report, 96 percent provide soaps or skin cleansers, while 91 percent furnish towels. More than two-thirds provide showers, protective clothing, and protective creams and ointments.

According to the survey, the best method of combatting industrial dermatitis is through educating employees in recognizing its causes. However, only one-third of the firms included in the poll provided any employee education along this line. Among plants employing less than 500 workers, only 16 percent reported having educational programs on cleanliness.

The survey was undertaken by the AASGP as part of its industry-wide education program on cleanliness. Other projects in preparation include a series of case history reports on plants that have solved the dermatitis problem; plant posters to be distributed in cooperation with the National Safety Council; cartoon strips, to be published in company periodicals; and a foreman's talk, with accompanying slides and illustrations, on the nature and causes of industrial dermatitis.

New P & G H



A NEW, ultra-modern, 11-story general office building, which will serve as main headquarters of Procter & Gamble Co., Cincinnati, was formally dedicated on Jan. 7. Located in the heart of downtown Cincinnati, at Sixth and Sycamore Streets, the new structure will provide 320,000 square feet of office space and will house the company's more than 1,500 administrative personnel. Its location is just two blocks from the site of the small factory and shop in which the firm was founded 119 years ago.

The building, which was two years in construction, covers half a city block. Its modernistic features include air and humidity conditioning equipment, designed to maintain air temperature at a constant 72 degrees; escalators and electronic elevators; a vertical conveyor for the distribution of mail; a snow melting system beneath the side-

brain" computing equipment; and a building-wide dictation transcription system. Finally, as part of the company's long-range planning, the building has been designed so that a rooftop landing area for helicopters can easily be installed. As rooftop landings prove practical, Procter & Gamble can become one of the first companies in the U. S. to employ helicopters in a day-to-day business role. The new headquarters is the first office building

New 16-story headquarters building of Procter & Gamble which was officially dedicated January 7. Below: One of executive conference rooms. There are 41 such rooms.



walk; reversible windows that can be cleaned from the inside; electronic business machines; "electric

in Cincinnati to be equipped with escalators.

There are nearly 40 confer-

SOAP and CHEMICAL SPECIALTIES

Headquarters

ence rooms in the building. Two of these are equipped for television and several can be utilized for luncheon conferences. All of the conference rooms have motion picture projection facilities. The entire fifth floor has been allotted to dining facilities with both table and cafeteria service available in a modern, colorfully designed dining room.

When the decision to build the new headquarters was made,

Close-up of the table service section of employee dining room in new P&G headquarters building. There is also cafeteria section beyond plant stands. Dining room and private dining-conference rooms occupy entire fifth floor.



Executive dining room on fifth floor of new P&G building.



company officials were determined to avoid the gradual overcrowding that had accompanied past growth.

In 1920, P&G's general office staff numbered 400 people. Since then employment has risen to 1,500, an

increase of almost 300 percent.

The exterior of the building will architecturally reflect its functional interior as well as Procter & Gamble's corporate character. From a well-founded base of polished granite, the building's clean, sharply defined body of limestone rises to the natural crown of white marble which sheathes the top floor. The building's color follows a gradual transition from the dark gray of the granite through the gray-white of limestone to the glistening white of the marble.

Setting the architectural tone of the building is a spacious lobby, 144 feet long and 36 feet wide. Its exterior walls are 17 feet high glass panels separated by strips of stainless steel. Topping the glass walls and extending slightly over the sidewalk is a canopy of bronze. On the inside of the lobby, five 900 pound chandeliers hang from the ceiling. Red Altico marble from Spain is used on the south wall and Cremo marble from Italy is used behind the reception desk, at the elevators and in the south corridor.

In effect the building has been designed from the inside out. Instead of planning a structure and then dividing its space among dif-



Typical office floor of new P&G headquarters. Surrounding open areas are private offices. Ample space is provided in office area for future expansion needs. Private offices have movable partitions for expansion or rearrangement.

ferent departments, the architects based their designs on the present and future space requirements of each department. These requirements, when determined, ultimately provided a building best suited to the company's day-to-day activities.

Study P&G's Growth

As a basis for their planning, company executives and architects studied both company wide and departmental growth during selected five year periods. Weighing these findings with the company's prospects and plans for the foreseeable future, they estimated the number of employees who would work in each department. Extensive studies on work flow and foot-traffic were conducted to determine the best location for each department, and allowances were made for technological improvements in business equipment.

Flexibility within individual departments has been achieved by the use of movable, metal partitions, throughout the building. These partitions permit the construction of perimeter offices either 10, 12 or 14 feet wide. Changes can be made easily and quickly. The partitions also accommodate a variety of electrical wiring systems, switches and air conditioning

outlets. Cellular steel floors also contribute to flexibility of wall and furniture arrangement. Each cell in the floor is an easily accessible raceway for electrical and telephone wiring. Therefore, outlets can be placed where needed. The steel flooring is topped with two and one-half inches of lightweight concrete and covered with vinyl asbestos tile.

All office furnishings have been planned as carefully as the office layout. Finished in light beige with attractive hard plastic tops for desks and tables, the modern metal office furniture and equipment complement the interior color scheme of beige, grey, black, terra cotta and blue. Vinyl asbestos tile in warm grey with brown tones is used on all floors. Private offices

have sand colored rugs, off white glass curtains and colorful drapes.

Home for Top Management

THE new building will serve as headquarters for P&G's top management group and for all departments, with the exception of manufacturing and research and development, which are directed from the Manufacturing Administration and Research Building at nearby Ivorydale. Included in the departmental activities directed from the new headquarters are advertising, art work, broadcast programs, promotion of products and purchasing. The latter department buys materials, supplies and equipment from over 3,000 suppliers throughout the world. The build-

(Turn to Page 168)

Top photo: Typical executive office on 11th floor of new P&G building. "L" shaped desk is type used in many of the executive offices. Below: entrance to employee dining room.



Fragrance in Aerosols

By **A. Dingfelder***

Sales Manager
Felton Chemical Co.
Brooklyn, N. Y.



ALL of us serving the different branches of aerosol packaging have one common goal: to develop and sell more and better aerosol products.

Just a few short years ago, when aerosols were still in their embryonic state, one of the luminaries of the cosmetic industry prognosticated a very short lived existence for the "push-button fad," as he called it. To him, aerosols were just another "hot-shot" idea which would run out of gas as quickly as chlorophyll did.

Needless to say, that same prophet is now profitably selling his wares in smartly styled and excellently perfumed aerosol dispensers.

I'm not going to cite figures to point up the growth of aerosol sales. The C.S.M.A. makes these statistics available. Besides, figures have no direct relation to my topic.

I should like to pass on to you a few serious and, I hope, constructive thoughts on the importance of fragrance in aerosols.

Checking the list of all aerosol products, it can quickly be seen that few indeed do not contain an aromatic substance.

Why Aerosols Click

WHAT makes an aerosol product click? A good item to start with, attractive packaging, a big advertising budget and smart promotion? Sure. All of these fac-

tors are very important. But *how* important is the use of a proper perfume for the product? The old adage that "a product which smells better sells better" still holds true. At no time, however, has so much emphasis been placed on the use of fragrance in such a broad range of products as at this very moment. The perfume industry is conscious of the huge potential of the fragrance market and is putting its best foot forward — with a strong assist from the aerosol dispenser — to introduce to the general public the pleasures of good scent.

Most fragrance products are formulated to appeal to the feminine taste. But women do not have an exclusive franchise on smelling prettily. We men are cutting into the act and more and more perfumed toiletries lines for men are being marketed.

There are numerous products for men on the market which lend themselves extremely well to aerosol dispensing. They are being fully exploited by aerosol marketers. These products are perfumed, of course, and one just cannot visualize them without their pleasant, refreshing odor. I hope most of you use an aerosol shave lather (after all, we must support pressure packaging) and the next time you push the button of your aerosol shave dispenser, you might find it very interesting to observe the fragrance of the lather. Perfume actually does two jobs: 1) It covers the intrinsic odor of the

product which very frequently is not a pleasant one and, secondly, it imparts an agreeable, unobtrusive scent, appealing to the masculine taste.

After-shave lotion is another perfumed product which is available in aerosol form. Isn't it convenient, simple and aesthetically pleasant not to have to pour the liquid onto your hands and wipe it all over your face? Simply push the button and you will get that fine, skin-prickling and refreshing smelling mist exactly where you want it.

Nevertheless, we must confess that the use of fragrance means more to women than to men, and the combination of "sweet smell" and the push button dispenser forms an attraction irresistible to women's itchy fingers.

Very recently, a leading fashion magazine made a study of fragrance and what it means to the woman. The answers varied. Some women said that fragrance gives them a lift. Some use perfume to make themselves more attractive to others, particularly to please the male of the species. Another group just likes the smell of perfume or cologne. Whatever woman's reason for wearing fragrance, there is no doubt that our public is becoming more and more odor-conscious. Just recently, the Fragrance Foundation embarked on an ambitious program of promoting the use of perfume through television spot commercials with the slogan: "Per-

* Paper presented before the 43rd annual meeting, Chemical Specialties Manufacturers Association, Washington, D. C., Dec. 5, 1956.

fume is for wearing every day, every hour of the day." This promotion program is now being tested in three typical medium-size cities and the increase of use of fragrance products in the test areas looks suspicious enough to hope for expansion of this program on a nation-wide scale.

The biggest boost to increased use of fragrance products, however, is being furnished by aerosols.

The public usually associates the word "fragrance" with perfumes, toilet waters or colognes. In the essential oil industry, however, fragrance is an all-encompassing term which relates to odors in all possible forms and applications.

Aerosols Vary

THEFORE, when we speak of fragrance and its importance to aerosol products, we must think in terms of odors for a tremendous variety of products ranging from insecticides to the most delicate perfume extracts and running the gamut of such incongruous items as pet sprays, athlete's foot remedies, shampoos, suntan lotions, Christmas snow, rug cleaners, new car odors, and innumerable other items.

It is inconceivable that aerosols could have achieved the progress and success they have without the close cooperation of the essential oil and aromatic chemical industry and the tireless research carried on in perfume laboratories.

Aerosol Perfume Problems

THE problems confronting the perfume chemist who took up the challenge of compounding odors for aerosols, were formidable and manifold. Even before the aerosol age, the perfume chemist's job was not a simple one. The problem of producing a perfume material which not only would do an effective job on a product, odor-wise, so as to make it most attractive to the buying public, but which would also be entirely stable in the product and not break down

through chemical reaction with other ingredients, has tested the mettle of many fine perfume chemists whom we are fortunate to be able to call upon for this very task. In our consideration of the *specific* situation created for the perfumer by the advent of aerosols, we can therefore proceed from the premise that the perfume will be compatible with the ingredients of the product itself.

Very briefly, without going into minute details, I should like to relate the principal hazards, the perfume chemist must contend with when developing a fragrance for an aerosol product.

One of the most important factors, and one to be carefully investigated, is the solubility and compatibility of the aromatic material in the propellant. Experience has taught many a disillusioned aerosol manufacturer that a perfume which was perfectly stable in his original product — whether it was a deodorant, a shampoo, or a toilet water or any other — simply would not work in his aerosol. Its incompatibility with the propellant causes the perfume to do any one or several of the following things: it may separate and not allow a homogeneous mixture to escape from the valve, it may cloud (which is, of course, inadmissible, particularly in a cologne or perfume extract); it may clog the valve; it may precipitate and appreciably distort the original odor; in the case of alcoholic solutions such as in colognes, where water may be used, it may cause hydrolysis, particularly where any metal parts might be present.

Propellants

CHEMICALLY and physically speaking, we are primarily concerned with these three types of propellants: monofluorotrichloromethane, difluorodichloromethane, and tetrafluorodichloromethane. Each one of these propellants is liable to react differently on any given aromatic compound. Therefore, the selection of a perfume for

an aerosol product should never be a hit and miss proposition and it need not be.

Experience has taught the perfumer which fragrance is suitable for combination with each individual propellant and he knows which propellant is most likely to yield the finest final product. Knowing the properties of each variable he is able to decide on the best combination. Today most essential oil houses are equipped to test the perfume in actual aerosol filling operations and under rigid storage and use conditions. A number of perfume houses have installed their own aerosol laboratories in order to create and test fragrance materials which not only will be satisfactory from an odor point of view, but which will fulfill the three most vital requirements peculiar to aerosol:

compatibility with active ingredients

compatibility with propellants

compatibility with the container. The container itself is a potential source of trouble for the perfumer. Frequently a perfume oil will clog the valve or cause corrosion due to chemical reaction of the container material with the aromatic substance. Some of this deterioration may occur only after a protracted period. Therefore, our aerosol testing laboratories are equipped with accelerated aging and shelf-testing equipment which will reveal such a defect and enable us to break down the perfume formula in order to eliminate the culprit.

One of the most interesting problems confronting our perfume chemists today is the adaptation of the classic perfume or toilet water for aerosol packaging. A quality perfume is a carefully balanced masterpiece, comparable in its harmony to a symphony. Most existing perfumes, however, will not work in aerosols because the resins, waxes and certain basic synthetic aromatics are not soluble in the propellant. To leave out or to replace parts of these finely attuned compositions may cause the distortion of the entire fragrance. Thus the

perfume chemists are faced with the problem of making the perfume adaptable to the aerosol formulation with a minimum of disturbance to the perfume structure.

Using alcohol with the propellants helps solubility. On the other hand, the aerosol method of perfume diffusion greatly increases the odor strength of an alcoholic solution so that the amount of propellant and alcohol must be balanced carefully in order to maintain solubility and to keep the impact of odor in proper check.

Color Changes

AS already stated, the deterioration of a perfume, caused by factors peculiar and exclusive to aerosols, often is a slow and tedious process and changes may not be noticeable for several months. One can visualize the damage that can result if an expensive perfume is packaged and distributed to stores and after two or three months on the shelf, the odor or the color of the perfume changes. The color factor is significant because aerosol perfumes now are being marketed in glass bottles and any change of color would be most undesirable.

There are several ingredients in almost every perfume formula which influence the color. Of course, these can never be entirely eliminated without changing the olfactory character of the perfume. But very frequently a change in the percentage of these ingredients within the formula will remedy the situation.

Another specific aerosol problem confronting the perfume chemist has to do with action of the most commonly employed perfume fixatives. Aside from their tendency to discolor and their resistance to solubility in propellants, they cause irritation to the skin if sprayed in a fine mist. However, the ingenuity of our perfume chemists has also solved this particular problem by developing new fixatives, both natural and synthetic, which conquer all the vagaries of aerosol packing and aerosol diffusion.

Incidentally, it is quite re-

markable that in spite of the progress aerosols have made in Europe the adaptation of pressure packaged fragrance products to this medium has lagged. I recently read an article in which a well known French perfumer expressed his disagreement with his American colleagues over dispensing fine perfumes by aerosol. But, how can we be wrong if our figures prove that aerosols are the biggest boon to perfume sales since Cleopatra?

However, it just will not do simply to pick up any fragrance, pack it in an aerosol container, and expect it to work. There is no *need* for trial and error. Constant research and the cooperation of all those interested in aerosols, and that means propellant manufacturers, valve manufacturers, container people, packers, etc. have enabled our perfume chemists to cope with every challenge to the benefit of both the aerosol and the perfume industry.

Aerosols are comparatively young; they have been marketed commercially for 12 years, and there are many worlds yet to conquer. Many products which would lend themselves for aerosol dispensing, but for which a proper propellant, solvent, valve, or aerosol compatible fragrance has not as yet been developed, will wind up in the push button can or bottle sooner or later, because research does not recognize any obstacles.

What's Ahead

ONE of the important steps in the progress of the aerosol field will be the formulation of powdered products for aerosol dispensing. This, today, is a *fait accompli*, with suspension material and fragrances well past the development stage and suitable valves ready for commercial production.

Another chapter in the aerosol history will begin with the advent of new, non-refrigerant type propellants. We can visualize many products heretofore unsuitable for or incompatible with the known fluorinated hydrocarbon type gas propellants which in the near future

can be most successfully marketed in aerosol containers. I am thinking particularly of items to be taken internally such as mouth washes, nasal sprays, respiratory sprays, or applications of drugs, medicated substances, such as eye washes, depilatories, personal disinfectants, etc. The entire concept of non-refrigerant type gases opens up a great vista in terms of new products and bigger aerosol sales.

The adaptation of fragrances or flavor material (as would be the case for products to be taken internally) for non-refrigerant propellants present no great obstacles to the perfume chemist. Thorough research and experimentation of the last several months have proven that aromatic materials can be formulated to be absolutely stable in non-refrigerant type gas propellants.

With the formulation of aerosol products for safe internal application accomplished, it is only a short step to the widespread adaptation of products for actual consumption such as food ingredients. Here is a completely untapped field for aerosols. Our own research laboratories are hard at work on the development of flavoring materials suitable for this new medium. Flavor and fragrance products, of course, are closely related. Both are based on natural essential oils, synthetic aromatics and certain isolates, and in that every good flavor compound exudes the distinct fragrance of the product it simulates. Flavor is actually being used now as a fragrance in aerosols for a very interesting and novel type of application. An ice cream concern, with stores all over the country, is now using aerosol dispensed flavors at point of purchase. The process is rather simple: aerosol containers loaded with such fragrant flavors as strawberry, raspberry, chocolate, and coffee are sprayed into space at the entrance of the stores and triggered at proper intervals by mechanical or electronic means. As the customer enters the store, a

(Turn to Page 168)

Hydrolytic degradation of polyphosphates in Liquid Detergent Formulations

By W. B. Bennet and T. L. Liss*

Inorganic Chemical Division
Monsanto Chemical Co., Everett, Mass.

SODIUM and potassium polyphosphates have found widespread usage in the field of detergent formulation because of their water-conditioning, buffering, deflocculating, and detergent building qualities. In all-purpose detergent powders, these phosphates are generally quite stable under a variety of storage conditions. In aqueous solution, however, the polyphosphates tend to degrade to a lower state of polymerization. The final product of this hydrolytic degradation, sometimes called "reversion," is the orthophosphate. Possible intermediates and modes of degradation of sodium tripolyphosphate (STP) are shown in Figure 1 (1).

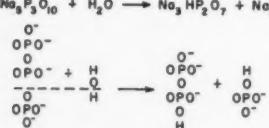
This type of degradation could be objectionable in the formulation of liquid all-purpose detergents which have been recently introduced into the market. In the first place, the appearance of orthophosphates in a liquid formulation would give certain undesirable characteristics: a change in the water-conditioning proper-

**Table I. Detergent Formulation
Used for Polyphosphate
Degradation Studies**

Alkylbenzene Sulfonate	Active (Santomerse)	6.7%
Alkyl Polyoxyethylene Ether	(Sterox AJ-100)	2.7%
Alkyl Diethanolamide		0.7%
Sod. Silicate (3.22:1 SiO ₂ :Na ₂ O)		2.7%
Polyphosphate		20.6%
Sod. Carboxymethylcellulose		0.3%
Sodium Sulfate		0.8%
Water		65.5%

ties, a possibility of precipitation or sludge formation due to their relatively lower solubility, and a tendency toward scum formation in usage in some hard waters. A second objectionable feature of degradation is caused by the resultant pH changes. It will be noted that the splitting of a —P—O—P— linkage in a polyphosphate yields acidic fragments as illustrated in the first equation of Figure 1. Thus the hydrolytic degradation of polyphosphates, unless otherwise buffered, is accompanied by a gradual decrease in pH. This will be further illustrated in this paper. Such a lowering of pH could have undesirable side effects in an all-purpose liquid detergent preparation. As is well known, the functional properties of the product could be impaired by even a moderate drop in pH (7). Furthermore, certain components such as silicates might be precipitated or altered and their primary function modified.

Figure 1. Possible modes of hydrolytic degradation of sodium tripoly- and pyrophosphates.

1. $\text{Na}_5\text{P}_3\text{O}_{10} + \text{H}_2\text{O} \rightarrow \text{Na}_3\text{HP}_2\text{O}_7 + \text{Na}_2\text{HPO}_4$

2. $2\text{Na}_5\text{P}_3\text{O}_{10} + \text{H}_2\text{O} \rightarrow \text{Na}_4\text{P}_2\text{O}_7 + 2\text{Na}_3\text{HP}_2\text{O}_7$
3. $\text{Na}_3\text{HP}_2\text{O}_7 + \text{H}_2\text{O} \rightarrow \text{Na}_2\text{HPO}_4 + \text{NaH}_2\text{PO}_4$
4. $\text{Na}_3\text{HP}_2\text{O}_7 + \text{Na}_2\text{HPO}_4 \rightarrow \text{Na}_4\text{P}_2\text{O}_7 + \text{NaH}_2\text{PO}_4$
5. $\text{Na}_4\text{P}_2\text{O}_7 + \text{H}_2\text{O} \rightarrow 2\text{Na}_3\text{HPO}_4$

Factors in Degradation

A number of factors play an important role in the hydrolytic

* Paper presented during the 43rd annual meeting, Chemical Specialties Manufacturers Association, Washington, D. C., Dec. 4, 1956.

degradation of the polyphosphates. These include the chain length of the polyphosphate, the concentration, the pH of the medium, the temperature, and the presence of other salts or substances in the system. The role played by chain length will be illustrated in this paper. Lowering of the pH greatly increases the rate of hydrolytic cleavage of polyphosphates. The hydrogen ion has been shown to be a catalyst for the reaction (2). An increase in temperature also accelerates the reaction. The activation energy for the rupture of a —P—O—P— linkage is of the order of 20-25 kg.cal./mole, corresponding to a doubling of the reaction rate for approximately each 6°C. temperature rise (3). Various cations and some colloidal metallic oxides have also been shown to catalyze degradation (4).

A large number of publications have appeared giving kinetic data on hydrolytic degradation of these phosphates, particularly STP and tetrasodium pyrophosphate (TSPP) (2,6, and references given therein). Most of these data were obtained in dilute solution and in the absence of quantities of other materials usually present in an all-purpose detergent formulation.

Table II. Polyphosphates Used for Degradation Studies

Tetrasodium Pyrophosphate (TSPP)	$\text{Na}_4\text{P}_2\text{O}_7$
Tetrapotassium Pyrophosphate (TPPP)	$\text{K}_4\text{P}_2\text{O}_7$
Sodium Tripolyphosphate (STP)	$\text{Na}_5\text{P}_3\text{O}_{10}$
Potassium Tripolyphosphate (PTP)	$\text{K}_5\text{P}_3\text{O}_{10}$
Sodium Phosphate Glasses	$\text{Na}_{n+2}\text{P}_n\text{O}_{3n+1}$
"SQ" Phosphate, n = 5	
Sod. "Hexametaphosphate," n = 14	
Graham's Salt, n = 63	

Translation of these data to apply to concentrated systems of this type is subject to many correction factors and assumptions. We therefore decided to examine the degradation phenomenon in systems approximating actual formulation practice.

A variety of sodium and potassium polyphosphates was incorporated into a functionally balanced liquid detergent formulation (Table I) containing a mixture of anionic and nonionic actives, phosphates, and anticorrosion and antiredeposition agents in suitable proportions. The phosphates used are listed in Table II. All were commercial or pilot plant grade materials. These formulations were stored for a long time at 70° and also at 120° F. which was chosen as a realistic upper limit under which detergents might occasionally be stored. The preparations were analyzed periodically for the phosphate species present. A chromatographic technique recently developed by Karl-Kroupa (5) was

used for these analyses. This technique proved remarkably suitable for this work, since it was possible to analyze for the various phosphate species with good precision despite the presence of large quantities of other electrolytes and colloidal materials.

Pyrophosphates Tested

Stability of sodium and potassium pyrophosphates, TSPP and TPPP, at both temperatures was good, as expected from previously published data. At 120°F., less than two percent of the pyrophosphate species had been destroyed in three months. The "half-life," or time for disappearance of one-half of the pyrophosphate, would then be several years under these conditions. The pH of these formulations (one percent solution) was about 10.

To show the effects of pH on pyrophosphate stability, a formulation containing 31 percent TPPP and 15 percent "Sterox" AJ-100

alkyl polyoxethylene ether was prepared with a pH of 10 (one percent solution). A portion of this formulation was then treated with sulfuric acid until the pH had been reduced to 7.8 (one percent solution). After seven days' storage at 120°F. the original formulation analyzed 100% pyrophosphate, the acidified formulation 43.7 percent pyrophosphate and 56.3 percent orthophosphate. It would seem from these data, then, that if the pH of the solution is sufficiently high no appreciable hydrolytic degradation will be experienced with the use of sodium or potassium pyrophosphates in liquid detergent formulations.

Tripolyphosphates

Sodium tripolyphosphate (STP) at room temperature, 70°F., was quite stable, showing a loss of only one percent of tripolyphosphate after a period of six months. Potassium tripolyphosphate (PTP) was slightly less stable over the

Figure 2. Degradation of sodium tripolyphosphate in liquid detergent formulation at 120°F.

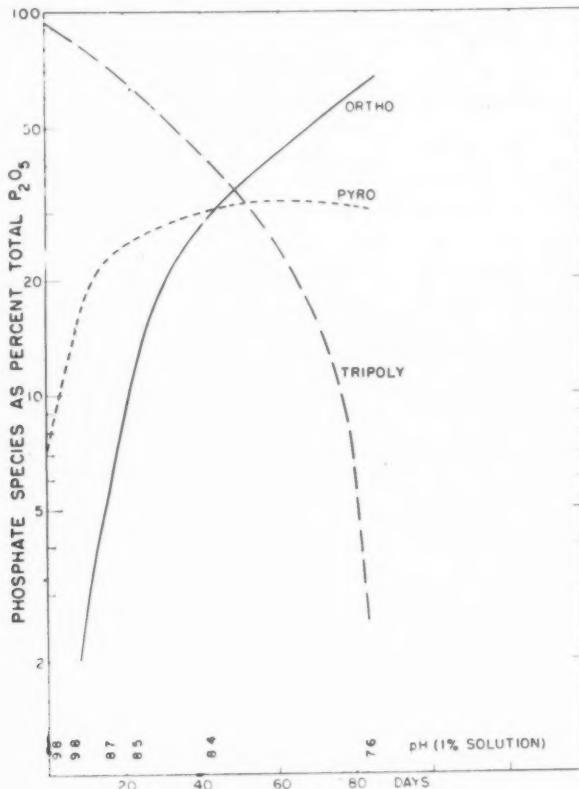
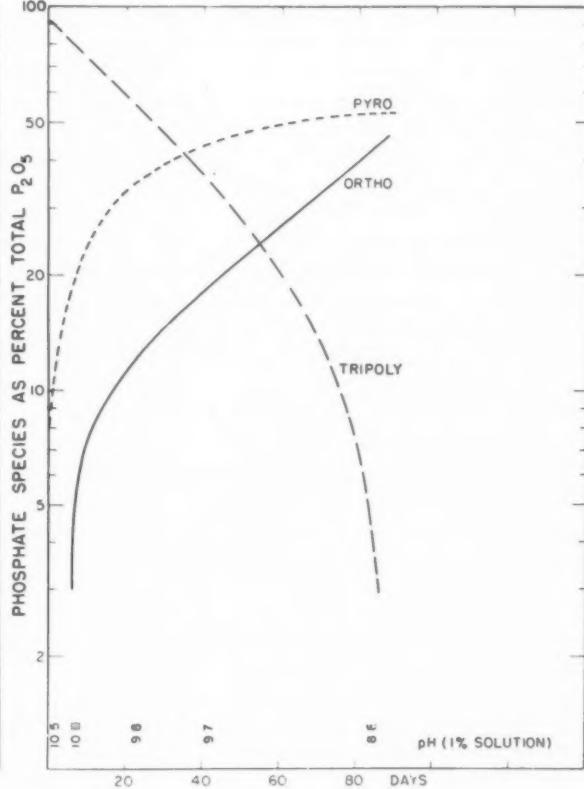


Figure 3. Degradation of sodium tripolyphosphate in liquid detergent formulation at 120°F after initial pH adjustment.



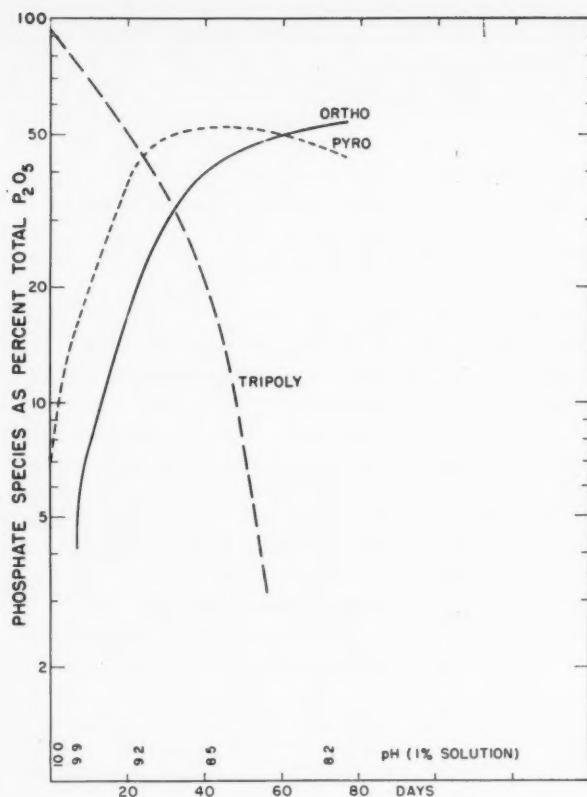


Figure 4. Degradation of potassium tripolyphosphate in liquid detergent formulation at 120°F.

same period of time, losing 2.4 percent of the tripolyphosphate originally present and showing an increase of 1.5 percent in pyrophosphate and 0.9 percent in orthophosphate present. At the higher temperature, 120°F., degradation of the tripolyphosphate is much more marked. Figure 2 gives the data obtained for STP at this temperature. Previous investigations (2, 6) have shown that under buffered conditions STP in dilute solution degrades hydrolytically in accordance with pseudo-first order kinetics. That this is not the case here can be seen from this graph, since the decrease of the tripolyphosphate species is not linear. The rate of degradation is about twenty times that predicted from the uncomplicated systems reported earlier (2). In view of the decreasing pH, the higher concentrations, the presence of large amounts of additional substances, and the inhomogeneity of the system, this result is not surprising. It will be noted that the "half-life" of the

tripolyphosphate in this case is about 38 days. The continual drop in pH of this relatively unbuffered formulation and the continued increase in the rate of degradation are shown in this figure.

A small adjustment of the initial pH to 10.5 (one percent solution) by addition of sodium hydroxide changes the characteristics of the degradation somewhat as shown in Figure 3. The rate of degradation of the tripolyphosphate is not significantly changed, but the buildup of pyrophosphate is greater and that of orthophosphate is slower in accord with the higher pH's noted throughout.

Potassium tripolyphosphate behaves in a similar manner. Figure 4 shows that at 120°F. PTP in this formulation degrades more rapidly than does STP, the "half-life" being about 21 days. Figure 5 shows that adjustment of the initial pH to 10.5 (one percent solution) has an effect similar to that shown by STP.

An additional experiment

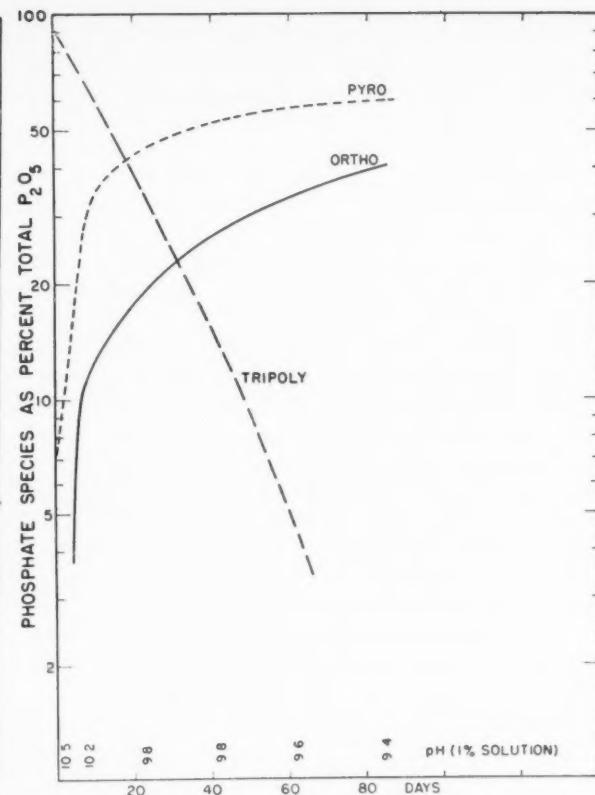


Figure 5. Degradation of potassium tripolyphosphate in liquid detergent formulation at 120°F after initial pH adjustment.

was made to show that the type of active played a relatively minor part in influencing the phosphate degradation. A PTP formulation was prepared which was similar to the ones used in Figures 4 and 5 but contained only the nonionic active Sterox AJ-100. No significant difference in the course of degradation could be noted at 120°F.

Phosphate Glasses

The sodium phosphate glasses might be considered in the formulation of liquid all-purpose detergents because of their good water-conditioning properties and their high solubilities. Three of these long-chain sodium polyphosphates were examined in this investigation. They were Monsanto "SQ" phosphate (average chain length 5), Monsanto sodium "hexametaphosphate" (average chain length 14), and a pilot plant preparation of Graham's salt with an average chain length of 63. Figure 6 gives the degradation data for

Figure 6. Degradation of sodium phosphate glasses in liquid detergent formulations at 70°F.

these three salts at 70°F. The effect of chain length on rate of degradation is readily seen. Graham's salt shows only a four percent loss in long-chain phosphate over a three-month period with the loss appearing as tripolyphosphate, no detectable pyrophosphate or orthophosphate being formed in this time. It should be noted that any trimetaphosphate present is not isolated as a separate species on these graphs. "SQ" phosphate, at the other end of the scale in chain length, shows a 20 percent loss in long-chain phosphate over the same period of time, about 6 percent of this loss appearing as orthophosphate, the remainder being principally tripolyphosphate with some pyrophosphate. The behavior of sodium "hexametaphosphate" is intermediate between these two but closer to that of Graham's salt.

At 120°F., as shown in Figure 7, the same relative stabilities are observed. The rate of degradation, however, is greatly accelerated. The "half-lives" of the long-chain phosphates at this temperature increase with chain length from about two days for "SQ" phosphate to seven days for sodium "hexametaphosphate" and fifteen days for Graham's salt. The buildup to maxima and subsequent degradation of tripoly- and pyrophosphates is illustrated, along with the continual buildup of orthophosphate.

The short-lived "SQ" phosphate can be used to demonstrate graphically the effects of pH on the course of polyphosphate degradation. As shown in Figure 8, adjustment of the initial pH of the formulation from 9.7 to 10.5 (one percent solution) has the principal effect of slowing down the degrada-

(Turn to Page 177)

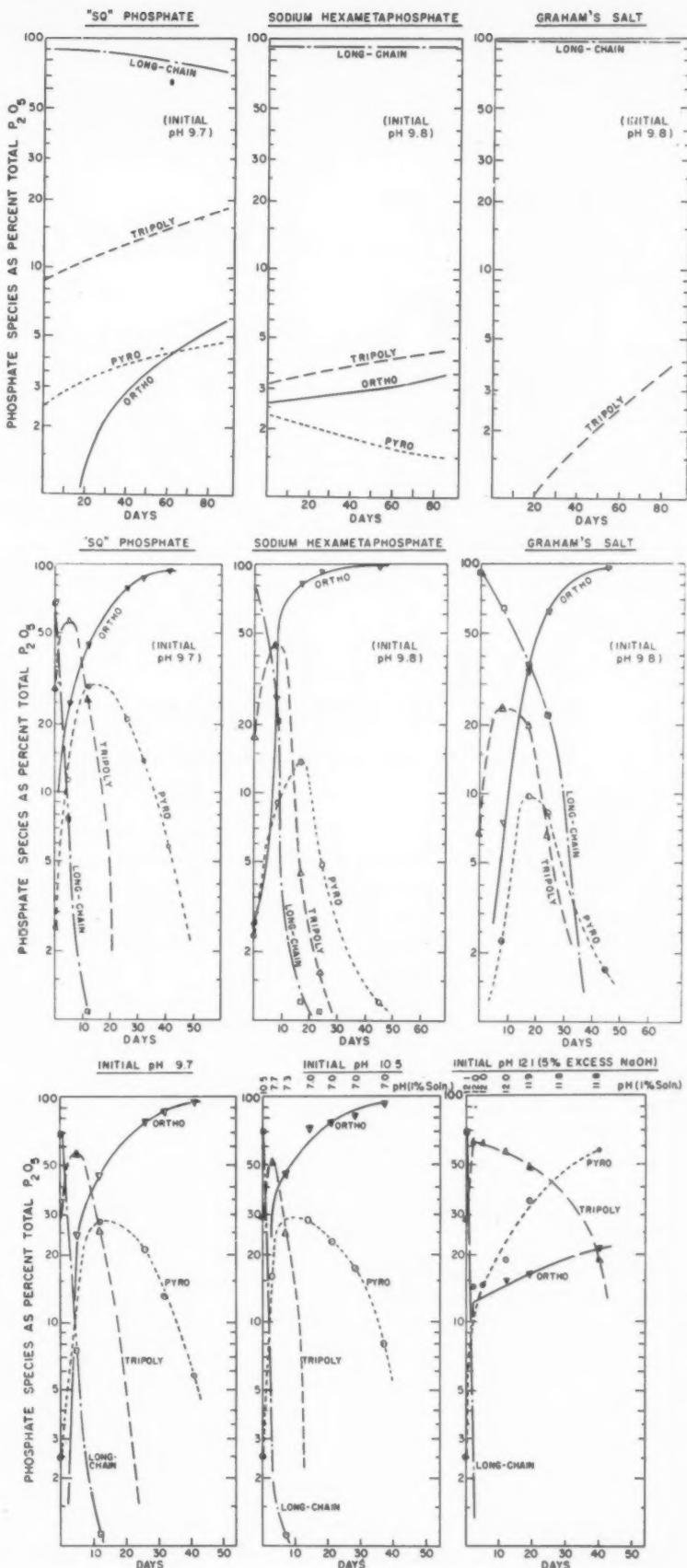
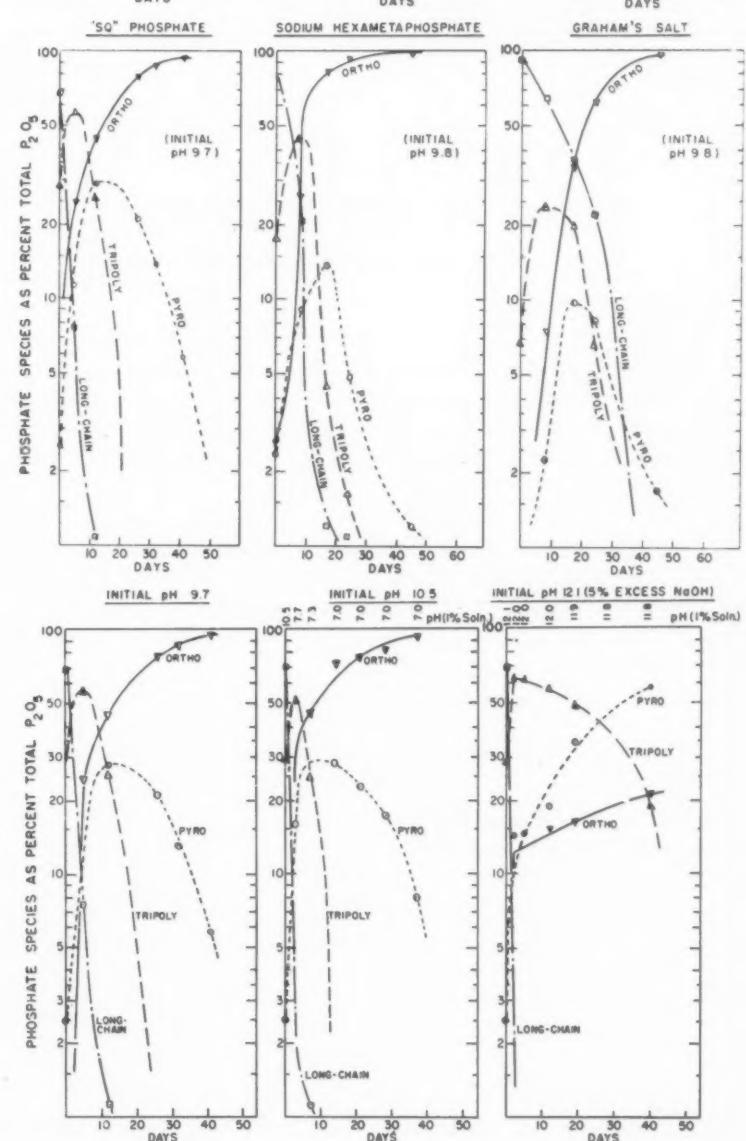


Figure 6. Degradation of "SQ" phosphate in liquid detergent formulations at 120°F.



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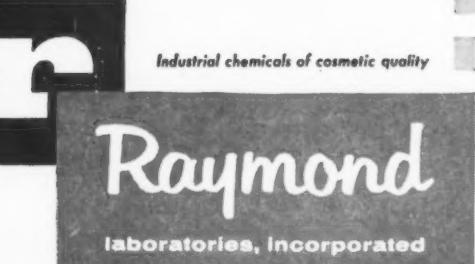
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Rug Cleaners Convention

Technical clinics in "Plant Mothproofing" and "Upholstery Cleaning" will highlight the 12th annual Rug Cleaners Convention and Exhibit to be held at the Hotel Roosevelt, New Orleans, Jan. 19-23.

The mothproofing clinic will be led by James W. Rice, director of research of the National Institute of Rug Cleaners, Bethesda, Md.; James M. Masters, Master Rug Cleaners, Tonawanda, N. Y.; and W. J. DeCorrevont, DeCorrevont Carpet & Furniture Cleaners, Chicago. Mr. Rice will handle technical requirements of mothproofing, while Mr. Masters and Mr. DeCorrevont will cover sales of in-plant and on-location mothproofing services. Truman Doyle, Truman Doyle Method, Los Angeles, will conduct the clinic on upholstery cleaning. This will include both furniture and auto upholstery.

Sponsored by the National Institute of Rug Cleaners, the convention will also include a clinic on rug laying and a discussion of employee relations by Kenneth Haagensen, director of the Public Relations Society of America.

Reader Sees It

(From Page 31)

known fact that the quality and melting point of the reactor products can vary considerably as the catalyst becomes exhausted. Thus, the maintenance of output uniformity is definitely problematical. In our opinion, production methods employed by the Germans for FT wax 300, though more costly, guarantee a more uniform product. From the consumers' point of view this must be more desirable than mere "cheapness."

Undoubtedly it was not the intention of your distinguished publication to confuse the public, and we therefore thank you for publishing our point of view.

I. Y. Strauss, president
Dura Commodities Corp.
New York 7.

Mr. Strauss' letter is based on a misunderstanding. In the article and in listing its title in the Table of Contents (Page 5) we used the expression "F-T," an abbreviated version of Fischer-Tropsch. In neither case was this intended to refer to the trademark "F-T," applying to mineral waxes, which is the property of Dura Commodities Corp. It was simply employed for purposes of brevity, and as a commonly used term in the wax industry.

As far as using the trademark improperly, even if it were our intent, which it wasn't, to refer to a particular product trademark or trade name, this in itself does not constitute "improper use."

Although in one paragraph of his letter Mr. Strauss declares the article "contains erroneous statements designed to confuse the public . . .", later on he says: "Undoubtedly it was not the intention of your distinguished publication to confuse the public." We were performing a basic function: to let the wax consumers in our industry know of new product, give them the available information about it (including prices) and show some of the actual photographs of the plant at which it is produced. We don't feel we have improperly used anyone's trademark, and we believe the article contains no erroneous statements. Finally, we wish to emphasize we had no intention of referring to any trademarked products. As a matter of fact in the "blurb" just beneath the headline of the article we say: "New Fischer-Tropsch Type Wax, 'Parafin,' Made in Johannesburg now available in U.S." The word "type" is the key word in the "blurb" and the article.—Ed.

—★—

Pine Oil is Synergist

Editor:

In your October issue you published from *Seife, Oele, Fette & Wachse* my article on solvent detergents. Unfortunately you translated the original English word "pine oil" into "tall oil," which is quite a different material. Tall oil does not at all act as a synergist for syndets without being saponified; pine oil, however, does. Would you please correct this mistake and draw the attention of your readers to the fact that in all examples quoted by you the word "tall oil" should be replaced by the word "pine oil."

A. Davidsohn,
Consulting Chemist,
Haifa, Israel

With reference to my previous letter (shown above) I would like to emphasize that the mistake in translating the word "pine oil" into "tall oil" has already had very bad consequences for me. I am receiving many letters from U.S.A.

and also from business friends in this country and abroad asking me how I could write such nonsense.

Therefore the damage to my reputation is very unfortunate and I have to ask you to print a correction. . . . Please understand I have no objection to your quoting from my articles in other journals, but you will understand that I cannot suffer for mistakes made by wrong translation. Even in the German article I left the word "pine oil" in the English language so as to prevent misunderstanding by translation; it is the more regrettable that when the article appeared in English this very denomination was distorted.

A. Davidsohn

Naturally, we are extremely embarrassed by the error in translating the article of Dr. Davidsohn's for the abstract which appeared in the October issue of *SOAP & CHEMICAL SPECIALTIES*. The more so because of Dr. Davidsohn's outstanding reputation as a leading scientist and author on soaps and detergents. As a matter of fact his standard work on soap making is used constantly in our offices for reference purposes.

The unintentional error which crept into our translation, which was done by one of the German-speaking members of our staff, may be traceable to the fact that the word "Pineoel" was used in the article as it appeared in *SEIFE, OELE, FETTE & WACHSE*. The word was not placed in quotation marks or set apart in any other way as an English word. We were puzzled, consulted too many "experts" and wound up with the wrong word.—Ed.

—★—

Argueso Is Argueso

Editor:

We note on the second green page of the November issue of *Soap & Chemical Specialties* that you mention that Mr. L. M. Argueso, Sr. is president of Mamaroneck Chemical Corp.

Please be advised that in 1953 Mamaroneck Chemical Corp. merged into M. Argueso & Co. under the resulting firm name of M. Argueso & Co.

We would appreciate your changing your records accordingly.

L. M. Argueso, Jr., treasurer
M. Argueso & Co.
Mamaroneck, N.Y.
Consider it done.—Ed.

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Automotive products
Bleaches
Bowl cleaners
Carpet cleaners
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Deodorants
Disinfectants
Floor Waxes
and other floor products
Glass cleaners
Household ammonia
Insecticides
Mildew compounds
Metal specialties
Polishes
Repellants
Rodenticides
Sanitizers
Skin protectants
Stock sprays
Sweeping compounds
Wax strippers
Weed chemicals
and other
Chemical Specialties



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During the 43 years of the Association's history, leaders in the field have been prominent in its affairs, — manufacturers, large and small, of floor products, insecticides, disinfectants, deodorants, aerosol products, soap and detergent specialties, polishes, automotive chemicals, and other chemical specialties. They have met together regularly for an open exchange of views on common industry problems.

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H. W. HAMILTON, *Secretary*



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JANUARY, 1957

57

...about insecticides

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Newly elected CSMA officers, left to right: James E. Ferris, Hooker Electrochemical Co., Niagara Falls, N. Y., first vice-president; Harry E. Peterson, Peterson Filling and Packaging Co., Danville, Ill.,

president, and Donald M. King, Masury Young Co., Boston, second vice-president. Right: Mr. Peterson accepts congratulations from his predecessor, Dr. E. G. Klarmann, Lehn & Fink Products Corp.

CSMA Elects H. E. Peterson

HARRY E. Peterson, president of Peterson Filling and Packaging Co., Danville, Ill., aerosol loading firm, was elected president of the Chemical Specialties Manufacturers Association at the 43rd annual meeting, held at the Mayflower Hotel, Washington, D. C., Dec. 3-5. The meeting was the largest in the history of the association with a registration figure of 922. Total attendance was estimated at close to 1100.

The new president, who last year served as first vice-president, succeeds Dr. E. G. Klarmann, vice-president and manager of technical services for Lehn & Fink Products Corp., New York, who served a one-year term as CSMA president. Because of the increasing burden of the office, as a result of the growth in range of activities and the number of members, CSMA decided several years ago to limit the term of office of the president to one year. Dr. Klarmann was the first CSMA president to serve under the new policy.

Advancing from second vice-president to first vice-president was James E. Ferris of Hooker Electrochemical Co., Niagara Falls, N. Y. Donald M. King, head of

Masury-Young Co., Boston, was elected second vice-president.

Newly elected members of the board of governors include, in addition to Dr. Klarmann, A. E. Budner of S. C. Johnson & Son, Inc., Racine, Wis. and Russell G. Puhle, Tykor Products Division of the Borden Co., New York.

Reelected as treasurer and secretary, respectively, were Peter

C. Reilly of Reilly Tar & Chemical Corp., Indianapolis, and H. W. Hamilton.

Chairmen and members of the administrative committees of the six divisions of which CSMA is composed were elected at the 42nd midyear meeting in Chicago last May. They took office early this month. With the exception of the Soaps, Detergents and Sanitary

Melvin Fuld, left, president of Fuld Brothers, Inc., CSMA board member and past president, presents to Dr. Klarmann a check to cover cost of recording microhematocrit to be given to the Philadelphia College of Pharmacy & Science. Dr. Louis Gershenfeld of the college looks on. Dr. Klarmann requested that this benefaction take the place of the personal gift usually given to an outgoing CSMA president.



Chemical Products Division all administrative chairmen were reelected. The new chairman of the administrative committee of the Soaps, Detergents and Sanitary Chemical Products Division is Clarence L. Weirich of C. B. Dolge Co., Westport, Conn., vice-chairman and a former CSMA president, whose term as a member of the board of governors expired last month. All administrative committee chairmen of the divisions of CSMA become members of the board of governors.

In addition to individual and joint meetings of the six divisions of CSMA, at which a wide range of topics were covered in papers and panel discussions, other highlights of the meeting included the presentations of the 1956 Achievement Award and the aerosol packaging contest awards, the showing of five sound and color motion pictures, and two addresses of general interest. Association business was reviewed at one general session, at which officers of the CSMA presented their reports. A presentation of the progress of chemistry and a talk on world affairs were also featured during the general session, Wednesday morning, Dec. 5.

At the group luncheon, Dec. 4, Dr. George F. Reddish, chief bacteriologist of the Lambert-Hudnut Division of Warner-Lambert Pharmaceutical Co., St. Louis, received the 1956 Achievement Award of CSMA for outstanding work in the fields of public health, disinfection and antisepsis. Lauding him as one of the nation's pioneering bacteriologists, Dr. Emil G. Klarmann, CSMA president, noted that the award was made in recognition of Dr. Reddish's "many accomplishments in promoting public health through more effective means of fighting the germs of disease". He also pointed out that "among other scientific accomplishments, Dr. Reddish developed methods of determining the effectiveness of disinfectants and antisepsics which became guiding standards for their evaluation."

Author of nearly one hun-

Facing Page, left to right, top to bottom
T. M. Metzger, Continental Can Co., Norman Wilson, Puro Co., Robert K. Riggs, Wyandotte Chemicals Co.; Clarence L. Weirich, C. B. Dolge Co. and Harry E. Peterson; George Schumacher, Velsicol Chemical Corp. and Harold Rife, Boyle-Midway. Al Saeks and Norman Wilson, Puro Co.; Dr. E. G. Klarmann, A. Dingfelder, Felton Chemical Co. and Donald M. King; Maria Wiener, Fluid Chemical Co. and Howard Young, Davies-Young Soap Co. D. A. Blackford, Joseph Cunha and W. W. Lewers, River Plate Corp.; Michael Lemmermeyer and Don LaVelle, Aromatic Products, Inc.; David B. Hatcher, Stepan Chemical Co., William Janney, National

Can Corp., and Al Candy, Candy & Co. Walter and Hans S. Mannheimer, Miranol Chemical Co.; Earl Brenn, Huntington Laboratories and Dr. Alfred A. Weed, John Powell & Co., Div. Olin-Mathieson Chemical Corp.; Herbert L. Sanders, Ninol Laboratories, Inc. and Ralph Hillman, Hill Mfg. Co. Robert M. Reese, Edward P. Hassler, Sterwin Chemicals, Inc., Dr. Winston H. Reed, Aerosol Process Co. and Dr. William Gump, Givaudan-Delawanna, Inc.; Dr. Klarmann addressing the Tuesday luncheon; Dr. George W. Fiero, Esso Standard Oil Co., Dr. Francis A. Mina, Chemway Corp. and Raoul Pantaleoni, Alpine Aromatics.

The CSMA, he said, is the only forum that he knows of for the discussion of scientific and other problems in relation to disinfection.

Plaques were presented by Frederick G. Lodes, head of Lodes Aerosol Consultants, Inc., New York, chairman of the aerosol package contest committee to winners during the post-luncheon session Dec. 4. Plaques were awarded for the best aerosol package from the standpoint of sales appeal in 10 classifications of products and a best of show. Winners on hand to receive the awards included Albert Perry of Airkem, Inc., New York, whose affiliated company, Societe Elekal, Paris, France, submitted "Bib" window cleaner, as the best package in miscellaneous household products. Herbert Fine of Plasti-kote, Inc., Cleveland, accepted the award for "Easy Way Plastic Spray".

Dr. George F. Reddish, chief bacteriologist of Lambert Hudnut Division of Warner-Lambert Pharmaceutical Co., St. Louis, receives 1956 CSMA Achievement Award plaque from Dr. E. G. Klarmann, CSMA president.



SOAP and CHEMICAL SPECIALTIES





Top to bottom, left to right: Carl Pacifico, American Alcolac Corp.; Willis J. Beach, Sugar Beet Products Co.; J. L. Perlman, B. T. Babbitt, Inc.; and Louis E. Wells, Milner Products Co.; R. E. Horsey, Givaudan-Delawanna, Inc.; Clarence F. Carter, Continental Filling Co.; Axel Sodergreen, Zoe Chemical Co.; R. E. Vicklund, Sindar Corp.; Jay Harris, Monsanto Chemical Co.; Al Peck, Peck's Products Co.; and F. J. Frat-

tali, General Services Administration; Claude Ravel, Societe Pyrolac, Paris; Joseph F. Battley, National Paint, Varnish & Lacquer Assn.; Herbert F. Mellan, Durez Plastics Division, Hooker Electrochemical Co. and H. W. Hamilton, secretary, CSMA; Peter Clapp, Western Filling Corp.; Frank Zumbro, Kinetic Chemicals Division, E. I. du Pont de Nemours & Co.; Frank M. Whaley and Fred Koch, Dow Chemical Co.; Abra-

ham Wiener, Standard Naphthalene Products Co.; Charles R. Lichtenberg, Chicago Sanitary Products Co.; Gordon Baird and Ralph Hamilton, Baird & McGuire, Inc.; Abraham Seldner and Harry Fields, Polak & Schwarz, Inc.; Jean W. Baer, Pennsylvania Salt Mtg. Co.; and Robert Yenger, Polak & Schwarz; Leon Kresser, Bardahl Oil Co.; N. J. Gothard, Sinclair Refining Co. and Amos E. Budertscher, McCormick & Co.

a preservative, waterproofing surface coating, which won in the industrial product class. The winning

entry in the paints, enamels, etc., classification, "Kylon Spray Enamel," went to Krylon, Inc., Norristown, Pa. and the award was accepted by James Bampton, president of the firm. Gordon Riha ac-

cepted the winner's award for "Tartan" suntan foam, entered by Mc-Kesson & Robbins, Inc., Fairfield, Conn. Winner of the glass and plastics category was Angelique & Co., Wilton, Conn., with Angelique "Black Satin" spray cologne. John R. Bland, vice-president, received the award on behalf of Angelique. "Rex" witch hazel shaving cream, a product of Rexall Drug Co., Los Angeles, took top honors in the shave products classification, with Wesley J. Hickman accepting the plaque.

Winner in two categories, "Air Spray" by Lactopine, the product of Swiss Pine Importing Co., New York, was judged best room deodorant package and best of show. Miss Rene Cartier received the two plaques on behalf of her firm.

Other winners, for whom no representative was present to receive plaques, were: "Matinee" hair spray of Scent de Paris, Toronto, a subsidiary of G. H. Wood Co.;

"Avon Moth-Proof" of Avon Products, Inc., New York, and "Christmas Snow", produced by Robert J. Kerr Chemicals, Inc., Park Ridge, Ill.

Photographs of all winning products, as well as the judges for the 1956 CSMA sponsored aerosol packaging competition, appear on pages 109, 180 and 181 of the December issue of *Soap & Chemical Specialties*.

Members of the CSMA committee in charge of the aerosol packaging contest were: Frederick G. Lodes, Lodes Aerosol Consultants, Inc., New York, chairman; Ira P. MacNair, *Soap & Chemical Specialties*, New York, and Joseph Tomlinson, General Chemical Division, Allied Chemical & Dye Corp., New York.

New CSMA officers and directors for 1957 were introduced during the second group luncheon, Dec. 5, which was presided over by James E. Ferris.

Melvin Fuld, president of

Fuld Brothers, Inc., Baltimore, a member of the board of governors of CSMA and a former president of the association, then presented Dr. Emil G. Klarmann, retiring president, with a check to cover the cost of a recording micro-hematocrit. Instead of accepting a personal gift on behalf of the CSMA, Dr. Klarmann chose instead to donate the instrument to the Philadelphia College of Pharmacy and Science.

Dr. Klarmann thanked Mr. Fuld and expressed his appreciation for the association's faith in placing its stewardship in his hands. He said he hoped the past year is one he can look back upon as one of "modest accomplishment. CSMA, he stated, "has been and continues to be close to my heart."

Dr. Klarmann then introduced the new officers and members of the board of governors of CSMA, including the newly elected president, Harry E. Peterson. Mr. Peterson responded to the introduction by stating: "The only thing I can

Top to bottom, left to right: T. D. Johnson, Jr., N. W. Kent, and S. G. Baker, Kinetic Chemicals Div., E. I. du Pont de Nemours & Co., A. O. Samuels and Edwin R. Lasner, Connecticut Chemical Research Corp.; Sam

Harris, Metro Products Co., Henry J. Brownstein, Hysan Products Co., H. W. Zussman, Geigy Chemical Corp. and Joel Brownstein, Hysan. Robert Ferris, Purex Corp., Wayne R. Merriman, Dow Chemical Co., and

Howard Young, Davies-Young Soap Co.; Robert S. Sweet, Success Wax, Ltd., Cyril S. Kimball, Foster D. Snell, Inc., Y. C. Fernandez, Odorite Chemical Industries, Inc., and R. E. Dodd, Durez Plastics Division.





Some of the 1956 CSMA Aerosol Package Contest winners with plaques. L. to r. first row: Herbert Fine, Plastikote, Inc., Cleveland; Miss Rene Cartier, Swiss Pine Importing Co., New York, grand award winner; James Bampton, Krylon, Inc., Norristown, Pa.; rear row: Gordon Riha, McKesson & Robbins, Inc., Fairfield, Conn.; Wesley J. Hickman, Rexall Drug Co., Los Angeles; Albert Perry, Airkem, Inc., New York, (for Societe Elekal, Paris) and John R. Bland, Angelique, & Co., Wilton, Conn.

Miss Rene Cartier of Swiss Pine Importing Co., receives from Aerosol Package Contest committee chairman, Fred J. Lodes of Lodes Aerosol Consultants, Inc., New York, one of two plaques for winning in room deodorant classification. The product, "Air Spray," also won best of show award.



say following Dr. Klarman (is that) I will try."

"Employee Relations — Past, Present and Future" was discussed in an address by John N. Hart, director of employee relations, B. F. Goodrich Co., Akron, O. He pointed out that prior to World War I there was no such thing as employee relations. The theory of scientific management, on which employee relations are based, began to be put into practice during the manpower shortages of World War I. There was a great shrinkage in employee relations during the early days of the depression in the early "Thirties," but with the advent of World War II, the policies of World War I were repeated. The importance of sound employee relations

has continued since the end of the second world war, which has seen an accompanying growth in the number of labor union members, Mr. Hart said.

Automotive Division

A RECOMMENDATION that all unsafe brake fluid be prohibited from sales to motorists was made during the first meeting of the Automotive Division. The proposal came from Francis J. Markey, Moraine Products Division, General Motors Corp., Dayton, O. Mr. Markey is also chairman of the Society of Automotive Engineers Brake Fluid Subcommittee and a member of the Brake Subcommittee of the National Committee on Uniform Traffic Laws and Ordinances.

In a paper, "The Importance of Heavy Duty Brake Fluid to Safe Motoring," Mr. Markey said that inferior brake fluids are a potential highway killer. He disclosed that eight states already have banned the sale of unsafe fluid. He credited Minnesota with being the first state to outlaw the sale of brake fluid which does not meet certain safety standards and said that since Minnesota's action in 1953 similar safety measures have been adopted by Georgia, California, Mississippi, New Jersey, North and South Carolina and Tennessee.

Mr. Markey recommended that the Society of Automotive Engineers be urged to develop higher temperature brake fluid specifications and suggested that SAE in-

clude a new minimum boiling point of 400 degrees or more.

At the same session questions pertaining to the use of silicones in wax polishes were discussed by R. C. Gergle of Dow Corning Corp., Midland, Mich. A study of silicone-wax-solvent combinations was undertaken to answer three basic questions, Mr. Gergle said in his paper, "Silicones in Wax-Containing Polishes." The questions to be answered included: "Why use silicones? Which silicones should be used? How should these silicones be used? Employing a standard polish formulation for evaluation purposes followed preliminary work using such waxes as carnauba, beeswax, ozokerite and paraffin. From this work the relative polish qualities of these waxes when used alone and in blends was established.

Soap Division

IN a paper dealing with "Some Properties of Lauryl Ether Sulfates—Part II," by George Baraude, Richard R. Egan, Morris Warren and Leo Galitzin of American Alcolac Corp., Baltimore, Mr. Egan pointed out that a study of the introduction of ether groups in sodium lauryl ether sulfonates has resulted in a variety of new products.

Liquid detergent formulations consisting of a mixture of triethanolamine, carboxymethyl cellulose, and nonionic surfactants wash cotton better than the usual phosphate-alkylaryl sulfonate mixtures, according to a paper presented by Fred E. Woodward of Antara Chemicals Division of General Aniline & Film Corp., New York. The paper, "Formulation and Evaluation of Some Heavy Duty Liquid Detergents," was written by Mr. Woodward and Richard A. Griffi of the central research laboratory of General Aniline & Film Corp., in Easton, Pa.

Mr. Woodward pointed out that sales of light duty liquid synthetic detergents in 1955 were 50 per cent greater than in 1954, and

this year would be about 60 per cent over sales last year. The principal problem in marketing a heavy duty liquid synthetic detergent is the concentration of active ingredients.

According to Mr. Woodward, GAF's central research laboratory and its Antara Chemicals Division have been working on heavy duty liquid formulations during recent months. The laboratory has developed a new method of detergency evaluation, which has been shown to correlate with a tergitometer method using average data from three types of soiled cloth: ACH #14, Test Fabrics #26 and hotel dirt padded on swatches.

With these newer type heavy duty liquid detergent formulations it was found that the carboxymethyl cellulose used must be relatively pure, and that the liquid must have high viscosity. There is no problem in incorporating optical brightener, according to Mr. Woodward, who pointed out that 1/10th of one per cent is the suggested amount.

A study of the hydrolytic degradation of sodium and potassium polyphosphates in formulations typical of the recently introduced heavy duty liquid detergents was reported on in the final paper of the Soap, Detergents and Sanitary Chemical Products Division, the morning of Dec. 4. The paper, "Hydrolytic Degradation of Sodium and Potassium Polyphosphates in Liquid All-Purpose Detergent Formulations," was prepared by William B. Bennet and R. L. Liss, Monsanto Chemical Co., Everett, Mass. It appears in full elsewhere in this issue.

Wax Division

APANEL discussion of the industrial consumer's view of floor maintenance highlighted the Dec. 4 morning session of the Waxes and Floor Finishes Division. Donald B. Peck of Fuller Brush Co., Hartford, Conn., acted as moderator for the panel, which followed the report of the division chairman, H. J. Mellan of Durez Plastics Divi-

sion, Hooker Electrochemical Co., North Tonawanda, N. Y.

In the first paper, Albert J. Burner, supervisor of cleaning standards of the Port of New York Authority, New York, compared maintenance requirements of waxed resilient floors with those of resin treated surfaces. In his paper, "Trends in Floor Maintenance—Resilient Surfaces," Mr. Burner defined maintenance requirements in each case on the basis of what he feels is "first class" or proper maintenance, with no concession as far as quality is concerned. These requirements are then reduced to terms of "man hours expended" in each type of maintenance. In effect, the comparison revolves around the advantages and disadvantages of "wet" vs. "dry" maintenance techniques.

Also speaking from the viewpoint of the industrial consumer was William H. Joy of American Telephone and Telegraph Co., New York.

He pointed out that three types of floor coatings are recommended for use by Bell Telephone Co.: a regular wax, a colloidal silica ("Ludox") type wax and an all-resin finish. This wide selection of floor finishes permits the building operating staff to select, on a local basis, the finish most suitable for its needs. In addition to such factors as appearance, service life, and slip resistance, consideration is given by the telephone company to type of flooring, type of occupancy, geographical location and past experience in making the selection. Improved floor finishes have resulted in a reduction in slips and falls on resilient floors in Bell telephone buildings, according to Mr. Joy. He also pointed out what is expected by Bell from suppliers in the way of service and technical advice on floor finishes, which are bought on a specification basis.

Because the periodic reconditioning of resilient floors in the Bell System, including scrubbing and waxing, is estimated at \$3,000,000 annually, the company feels justified in the amount of attention devoted to this phase of its maintenance program.

Floors and the composition of floors, together with the coating and maintenance material which is applied to the floor, is of interest to the insurance industry, it was pointed out in a paper by Ruel C. Stratton and Harry W. Rapp, Jr.,

(Turn to Page 87)

Water Based Aerosols

By Lee D. Callans and John Griswold *

General Chemical Division
Allied Chemical & Dye Corp.
New York

THIS paper is devoted to "Water-Based" Aerosols." Now just what is a water-based aerosol? Very early in putting the article together we got into linguistic troubles. A formulation containing 90 percent water is definitely water-based. Other formulations contain 75 percent, 50 percent on down to 30, 20, 10, 3.5 and one percent water. What about the one percent water? How shall we designate a formulation containing no water? As a visa to cross the border, we propose the terms aqueous aerosol products for formulations containing water as an essential ingredient, and nonaqueous aerosol products for the others.

While on the subject of notation, we have a second proposal. It is becoming common practice to designate aerosol types according to the total number of phases in the can. Thus the original product could be called "Two-Phase": one liquid and one vapor. If a liquid propellant phase appears in the container, it has recently been called "Three-Phase." If consistency with this practice is to be maintained, solid phases should also be included. This would greatly complicate and confuse classification of aerosol types. Therefore, since we are really concerned only with the liquid phases, this paper will mention only one and two-phase products. Hereafter, a single-phase product has one liquid phase, and a two-phase product has two liquid phases in the container.

* Paper presented before the 43rd annual meeting, Chemical Specialties Manufacturers Association, Washington, D. C., Dec. 4, 1956.

Nonaqueous Formulations

Early formulations consisted of one or a few compounds dissolved in propellant to make a single-phase nonaqueous product. When sprayed, the propellant evaporates very rapidly, vaporizing other ingredients along with it. The nonvolatile material was left suspended in air as a very fine dispersion, whence the term "aerosol." Single-phase nonaqueous formulations are indicated for space sprays, for example, room deodorants and insecticides. This type of formulation is also advantageous where transparent or impermeable films are to be formed, and also where minimum drying time is desired such as for hair sprays and for many paints. Nonaqueous formulation avoids several problems that we discuss later.

Aqueous Formulations

As soon as the convenience aspect of aerosol packaging was fully appreciated, applications came to mind for products that are soluble in water, but not in the propellant. A good start has been made in developing aqueous formulations and second place in marketing volume in 1955 was taken by such a product: shave cream. Aqueous products occupy an essentially different niche than nonaqueous formulations. In aqueous products, the propellant is used chiefly as a propellant. It does not have to be soluble in the contents of the pack. The amount of propellant in aqueous formulations is smaller than in the nonaqueous.

But an aqueous spray is coarser and its drying time longer than a nonaqueous one, other things being equal. There are many cases where these factors are not disadvantages or are even advantageous.

Where do water-based aerosols fit into the over-all picture? When should they be used? What are their advantages? What are their disadvantages and the problems associated with them? As was stated earlier, an aqueous aerosol is defined as one in which water forms an essential ingredient. Now, that being the case, we are interested in a suitable product prepared in the most economic manner. We will all agree that the product needs to be suitable and efficient and that the more inexpensive it is the larger will be the market. Therefore, in approaching answers to the above questions, let us differentiate between special types of aqueous pressure-propelled products. There are four types of such formulations. These are: 1. propellant insoluble; 2. emulsion; 3. solvent; 4. dispersion types. Let us consider each in detail.

Propellant Insoluble Type

In the case of what we are calling an insoluble product, the propellant and aqueous active ingredients are mutually insoluble and layer out in the aerosol container.

The hydrocarbon propellants float on the water, whereas the more dense nonflammable chlorofluoro-hydrocarbons collect at the bottom of the container.

The Eaton Patent appears to be directed to this type of product. An example is the Larvex moth proofer.

The advantages are obvious. The product is relatively inexpensive in that very little propellant is required. Secondly, it provides a means of dispensing water soluble materials. Thirdly, it allows the replacement of various relatively costly organic solvents by water. In addition, there are, of course, cases where an organic solvent is not desirable. A moth proofer is a reasonable example of this. On the other hand, these products have their disadvantages. Even in the hands of one familiar with these units, there exists the possibility of the propellant being lost by improper operation.

Emulsion Aerosols

A second category comprises emulsions. Emulsions are a means of obtaining stable suspensions of immiscible materials. Emulsions may be temporary or permanent. The former must be shaken, and perhaps frequently, to avoid variable concentration of active ingredients during spraying from full to empty container. Examples of this type of formulation appear to be described in the Spitzer or Boe patents.

Some products in this category are: shave creams, shampoos, hand creams, and liquid starches.

Figure 2. Principal 1955 Aerosol Products

	Millions of Units	(a) Proportion of Users	(a) Users Purchasing More Than 1 Unit	(d) Est. Approx. Market Saturation
Hair Sprays	53.8	52%	60%	30%
Shave Lathers	45.4	27% (b)	83% (c)	35%
Space Insecticides	38.9	62%	62%	50%
Space Deodorants	32.1	56%	55%	30%
		170.2 = 71.8% of total market		

(a) From McSorley, D. C., of Du Pont, Proceedings of C.S.M.A., Dec., 1955, p. 65.
 (b) This is 44% of those not using electric shavers.
 (c) 45% of users purchased more than 4 units.
 (d) Product of 2nd and 3rd columns adjusted for seasonal and other factors. See context.

Emulsions possess the three advantages of the propellant insoluble aerosol: they are relatively inexpensive, provide a means of dispersing water soluble ingredients and allow the replacement of organic solvents by water, for either economic or quality consideration. In addition, possibility of propellant loss is very much diminished over that of the propellant insoluble aerosol.

What are the disadvantages? In an emulsion the propellant distributes between both phases. As noted above, except for permanent emulsions, variable concentration of active ingredient can occur during spraying. Unfortunately, permanent emulsions have their disadvantages. When the dispersed phase is a high percentage of the total volume, the emulsion viscosity is higher—sometimes many times

higher than that of either liquid phase alone.

Solvent-Aqueous Aerosols

Next are what may be called solvent aqueous aerosols. These, like emulsions, have received very little attention in the industry to date. The principle is simple. Sufficient propellant can be taken into water solutions by the addition of a cosolvent such as alcohol. The solubility of the propellant depends upon the cosolvent and the amount of it present. As examples, we may talk of nonfoaming glass cleaners or some aqueous anti-perspirants. Again this type possesses the three advantages of the two previous types: they are inexpensive, they provide a means of dispersing water soluble active components and allow the replacement of organic solvents by water. There are additional advantages: no agitation is required before use, there is no possibility of losing the propellant phase. There are disadvantages: formulations containing high percentages of alcohol are flammable, and, of course, the use of a cosolvent for solubilizing a fluorinated chlorinated hydrocarbon is more costly than the use of water. Lastly, some of the propellant vaporizes in the can during spraying. As the can becomes empty, the concentration of propellant falls, and the pressure is correspondingly lower. This effect sets a lower limit on the amount of propellant to be used.

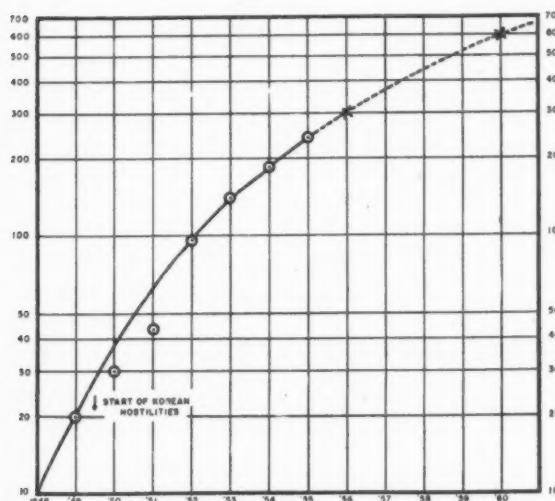


Figure 1. Total Aerosol Market As Millions of Annual Units (Numerically Close to Dollar Volume).

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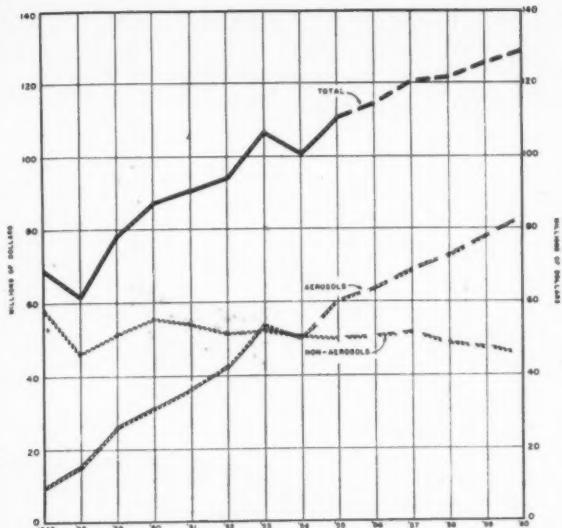


Figure 3. Retail Sales of Household Insecticides. (Aerosol versus non-aerosol types). Total sales represented by solid line; broken line (center) non-aerosols, and chain is for aerosol sales.

Dispersion Type

Lastly, we come to a type of aqueous aerosol on which General Chemical Division, Allied Chemical & Dye Corporation has been working. We like to call this aqueous dispersion. In principle, mixtures of certain surface active agents and water will take up propellants to form a dispersion. These products are neither true solutions, nor emulsion, but are somewhere in between. The viscosities are low. The liquids range from clear to milky, depending upon composition. The amount of propellant required is low, being in the range of three to five percent. To characterize this type of aqueous aerosol let us say: remove the surface active agent and the formulation reverts to the aqueous insoluble type discussed above. In these dispersions pressures may be adjusted to as low as 12 pounds per square inch by adjusting the amounts and types of propellant and surface active agent. When the aerosol is continuously discharged the pressure at the end will have fallen by only about one or two pounds per square inch. A number of surface active agents have been found to be satisfactory. Formulations have been developed using anionic, cationic and nonionic surfactants. Of the three types, however, experience to date indicates the nonionic to be

the most generally useful. Mixtures of more than one surface active agent sometimes are synergistic. For example one percent of a mixture of Tween* 80 and Span* 80 will disperse more propellant than one percent of either alone.

This type of pressure propelled product has all five of the advantages mentioned for the solvent-aqueous aerosol. In addition, a surface active agent as cosolvent is less costly than an organic solvent and avoids flammability. Lastly, the product dispersed from the aerosol will be of constant composition. Products of this type might include the two mentioned above and in addition such widely used products as wax emulsions, emulsion paints, etc.

This product type, we believe, will give the aerosol market a large new surge upward. What are its disadvantages? First and foremost is corrosion. Shelf life tests of sufficient duration have not as yet been completed on any commercial product. Shelf life tests have not been made on a sufficient number of experimental products. The problem of corrosion was solved in shave creams. Fortunately, they contained effective ingredients which are in themselves corrosion inhibitors. Other equally effective inhibitors certainly exist and hence

we may say with certainty that corrosion is not an insurmountable problem. Furthermore, we are reasonably assured that can manufacturers are or will be working on suitable liners for the various products which will come into being. In addition to the above we must be concerned with possible reactions between propellant and water. Genetron* 11 certainly will not be used since it hydrolyzes too rapidly. Genetron* 12 is satisfactory and will without doubt be used in those cases where the solvent or cosolvent acts as pressure depressant. Where this is not the case, the Genetron 12 must be blended with Genetron* 114a or with Genetrons* 100 and 101.

With some products, e.g., certain pharmaceuticals, the use of an inhibitor is not permissible. Here glass or plastic containers can be used. These are the only disadvantages which have come to mind or that have been brought to our attention by the many firms that are working extensively, but quietly and conservatively, on this type of product. The advantages are obvious.

Market Forecast

In view of the various forecast figures that were heard last year and this for the future aerosol market, we cannot resist looking into our own crystal ball. Maybe we will also see herein the area of greatest market growth. At this point I would like to make clear that this is not our Market Surveys Department's but my own crystal ball that we are examining. Let's look at a plot of total annual aerosol units. You will note that the points fall on the smooth growth curve typical of multi-purpose products. Except for the years 1950 and 1951 which fall below, which we can explain by saying that this is the result of the Korean conflict during its first two years. Many people still had a conditioned reflex to government rationing and

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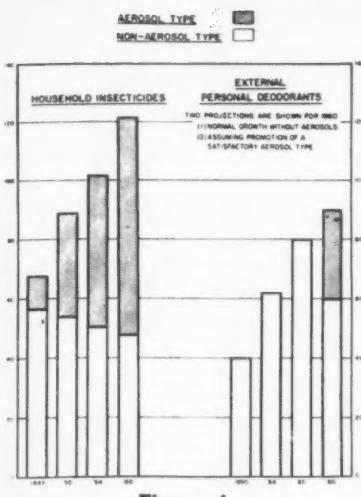


Figure 4

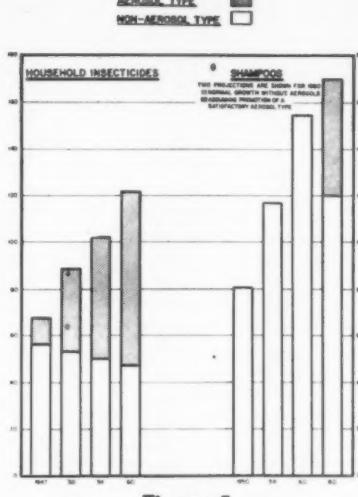


Figure 5

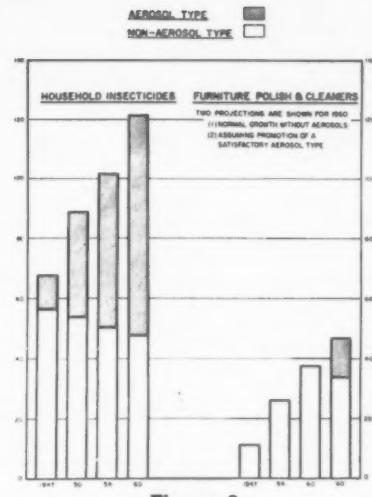


Figure 6

Retail sales of personal deodorants (Fig. 4), shampoos (Fig. 5), and furniture polish and cleaners (Fig. 6). Past growth and 1960 as projected both with and without the introduction of aerosol type products. Patterned after growth of retail sales of household insecticides.

were preoccupied by buying other things. You will note that in this year we are predicting 300,000,000 units. This extrapolates smoothly to 600,000,000 units by the year 1960. This projection is higher than some others we have seen and considerably higher than a few. It expresses my confidence in the present and expected new merchandisers of aerosols. It expresses confidence in the ability of aerosol fillers to develop new products for merchandisers. It expresses confidence in the future of aqueous based aerosols. We have to say here with some natural chagrin that our very confidence in the future of aqueous based aerosols means that the propellant market will not grow to anything like this degree. In fact, while the markets for cans and valves and cartons and, I hope, advertising budgets, may be expected to increase proportionately, the sales of propellants will increase in a modest way for the simple reason that the amount of propellant required in aqueous aerosols is far smaller than in the conventional types.

We would like to tell you the thumbnail way in which we arrived at the above estimate. You know that four products constituted 72 percent of the aerosol market. Let us look at Figure 2. Here you will note that the four

products, hair sprays, shave lathers, space insecticides and space deodorants constitute 170,000,000 units. From the columns "Proportion of Users" and "Users Purchasing More than One Unit" we have calculated the approximate market saturation. Now, it is our belief that by the end of 1960 the average market saturation of these products will have increased from the 1955 figures to an average of 80 percent, or to approximately 400,000,000 units. Other existing products total now 70,000,000 will certainly increase to 100,000,000 which gives us a total of 500,000,000 aerosols. It is our modest speculation that new products and in particular new aqueous aerosol products such as personal deodorants, emulsion waxes, shampoos, furniture polish, and hand lotions and creams will constitute certainly not less than one hundred million missing units. As a matter of fact let us examine the possible aerosol markets which should develop for each of these products.

Under these circumstances we shall attempt to show how these markets may be expected to grow if aerosol packages are introduced. The household insecticides market, the pioneer in aerosol packaging, was chosen as our yardstick, since this had the most conservative growth among the major aerosol

products. Let us look at the household insecticide market to see the growth created by aerosols. In Figure 3 household insecticides are charted from 1947 to 1955 and projected through 1960. Total sales represented by the solid line have been divided into the aerosol and non-aerosol portion of the market. The chain line represents aerosol sales and the broken line represents non-aerosol sales. From the graph you can see that the total growth of the household insecticides market may be attributed to the aerosol package, since these two curves follow the same growth pattern. The same general characteristics can be seen in other three major product categories, room deodorants, shave lathers, and hair sprays. When a product is satisfactorily packaged in aerosol form and is properly advertised and merchandised, the total market increases. This growth is at a more rapid rate than that experienced in years prior to the introduction of the aerosol. We can safely assume that the aerosol form will set the trend of the total growth.

Personal deodorants (Figure 4) are the first example of aqueous aerosols. Two sales projections for 1960 are shown 1) normal growth without aerosols and 2) future growth assuming promotion of a satisfactory aerosol type. The

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PHYSICAL PROPERTIES

Molecular Weight	89.14
Boiling Point, at 760mm	165°C
Melting Point	30.31°C
Specific Gravity at 20/20°C	0.934
pH of 0.1M Aqueous Solution at 20°C	11.3

Solubility Miscible with water, aromatic hydrocarbons, alcohols, esters. Insoluble in aliphatic hydrocarbons.

SPECIFICATIONS

Neutral Equiv.	88.5-91.0
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Water, by wt., max.	0.8%
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first projection is based on past sales history of the product, while the second projection is based on the rate at which household insecticide sales have expanded after the introduction of the aerosol. In this chart each bar represents the total market for the individual product in a particular year. The plain portion of the bar represents the sales of non-aerosol type products. The market for external personal deodorants in 1950 and 1952 was estimated at approximately 40 million and 62 million dollars respectively. At the same rate of growth the 1960 market would be in the range of 80 million dollars. However, if a satisfactory aerosol package were promoted, the 1960 market would approximate 90 million dollars: sales in aerosol containers would account for approximately 30 percent of the total market. This growth in the total market is based on the past performance of the aerosol package in household insecticides.

Assuming the promotion of a satisfactory water-based aerosol type, we have projected for 1960 the following total markets:

Shampoo sales for 1960 with aqueous aerosols should approximate 170 million dollars; with an estimated 50 million of that being retailed in the form of aerosols. This is a long way from the total

1950 shampoo sales of 80 million dollars.

Furniture polish and cleaners sales in aerosols should total approximately 12 million out of a total 1960 market of 45 million dollars.

The same is true of auto polish and cleaners; out of an estimated total 1960 market of 64 million dollars, 20 million should be sold in aerosol form.

Hand lotions and creams sales for 1960 would be similar; a total market of 60 million dollars is projected for 1960, 20 million dollars being sold in aerosol form.

Our last chart plots the growth of retail sales of floor waxes. By 1960 sales of floor waxes should be 118 million dollars if a satisfactory aerosol is introduced. Of this total 118 million dollars sales, approximately 35 million dollars would be in aerosol form.

These suggested products totals will be above the needed 100 million mark, to provide the estimated 600,000,000 aerosol units in 1960. In one sense, this is fantastic growth. Viewed from another perspective, it is not very significant. In 1955 each U. S. family used one aerosol every 13 weeks; we are merely projecting that in 1960 each family will use an aerosol within five weeks.

The top two products in

1955 took over 41 percent of the total 1955 market. Both are personals, one for Mrs. and one for Mr. The fact that they are personals is incidental to potential users and frequency of use. In order to attain second place, Mr. had to use his shave lather every day. Mrs. took first place using her hair spray only a couple of times a week.

Aerosols are used mostly at home and although some of you may dispute it, Mrs. is at home more hours a day than Mr. Does anyone have any doubt about who should have the most attention? If we can get Mrs. to push an aerosol button every day on a new product, it will be of larger volume than anything yet seen. Better yet, can there be marketed a product used daily by the entire family?

—★—

Killheffer to Emery

John V. Killheffer, Jr., has joined the research staff of Emery Industries, Inc., Cincinnati, it was announced recently by R. G. Kadesch, director of research. In his new assignment, Mr. Killheffer will work with the plasticizer group of the process research section under the supervision of C. A. Sprang. Prior to joining Emery, Mr. Killheffer was a chemist in the organic chemicals department of E. I. duPont de Nemours, Inc., Wilmington, Del.

Retail sales of auto polish and cleaners (Fig. 7), hand lotions and creams (Fig. 8), and floor waxes (Fig. 9). Past growth and 1960 as pro-

jected both with and without the introduction of aerosol type products. Patterned after growth of retail sales of household insecticides.

Figure 7

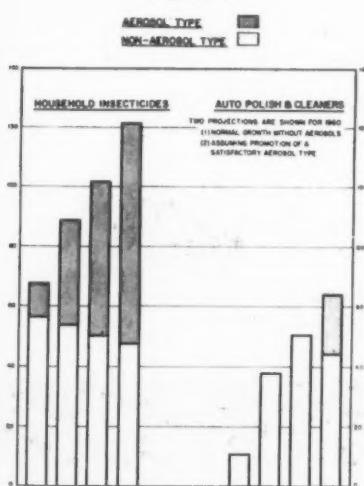


Figure 8

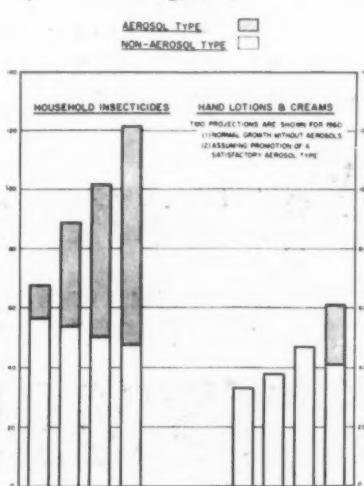
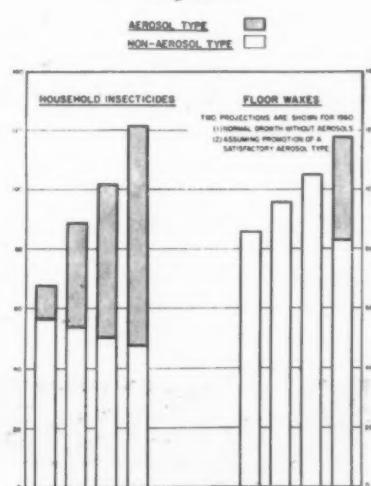


Figure 9



Check These Aerosols for Bigger Sales in '57—

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✓ Roach and Ant Sprays

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✓ Pet Sprays, Plant Sprays

Active ingredients for both types of sprays are *pyrethrins*, technical *piperonyl cyclonene*, *rotenone* and other cube extractives. Pressurized pet sprays effectively control fleas, lice, ticks on dogs and cats—and in their sleeping quarters. Equally convenient plant sprays control most of the common insects which attack flowers, ornamental plants and garden vegetables.

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Trends in

Floor Maintenance

— Resilient Surfaces

By **Albert J. Burner***

Port of New York Authority



DURING recent years floor maintenance has been characterized by many innovations in methods and materials. Many of these innovations have evidenced serious flaws, either in material performance or maintenance considerations, and have been of little or no importance in the development of what seems to be shaping up as the standardized floor procedures of the future. Others, though characterized by positive contributions in the way of appearance, safety, or ease of maintenance, have still lacked a satisfactory consideration of all of these factors and, as a consequence, have proved to be only of transitory importance. This has been particularly true of material and method development in the maintenance of resilient floors.

First, then, we shall look at the past, as it relates to the care of resilient flooring, paying particular attention to the type of finishes available on the market, and the methods proposed or developed for their maintenance.

Let us start at that point where the extensive installation of resilient floors led to the development and wide usage of water emulsion waxes. These finishes, still in preponderant usage today, have had a long progressive development marked by intensive and relatively

successful attempts by compounders to circumvent some of the inadequacies inherent in the nature of wax as a floor finish. For instance: hardness of film, or scuff resistance, had to be reconciled with resiliency; non-slip qualities had to be balanced somewhere between high gloss and tackiness; solid content had to be made consistent with ease of application or leveling characteristics, etc. Although, we at the Port Authority use water emulsion waxes only to a very limited degree in the maintenance of our resilient floors, let me say here that compounders of these finishes have succeeded to a remarkable degree in meeting the problems of appearance, safety, and scuff resistance. A more insurmountable problem, it seems to me, has been the almost prohibitive labor cost involved in the proper maintenance of waxed surfaces.

Waxed Floor Maintenance

Let me digress here to point out what I believe to be first class maintenance of waxed resilient floors. For a number of years prior to my present association with the Port Authority, I was employed in a sanitation research and administrative capacity with a large industrial organization having processing plants throughout the East and Middle West. Standard maintenance for asphalt tile and rubber floors in these plants, which ran

into hundreds of thousands of square feet, entailed monthly stripping and reapplication of good grade water emulsion waxes, routine nightly dust mopping, routine nightly damp mopping with cold water, routine nightly buffing with conventional "raise right—lower left," polishing machines, and in "show" or executive areas, a second going over with a felt pad to remove highlights. For our efforts we achieved a very high level of floor appearance but at a cost, which under the prevailing competitiveness of the present day Manhattan picture, would put me out of business.

Let's look at the man-hour expenditures involved in the routine nightly features of this type of waxed floor maintenance. Cold water damp mopping, with due consideration of the varying degrees of obstruction present in overall space can be reasonably accomplished at a rate of fifteen minutes per thousand square feet. Buffing with a conventional "raise right—lower left" machine, which because of relative obstruction must be employed, also requires approximately fifteen minutes per thousand square feet. Removal of buffing swirls or highlights with a felt pad cannot be accomplished at much less than ten minutes per thousand square feet. Remembering that these operations must be preceded by dust mopping at eleven minutes per

*Paper presented before 43rd annual meeting, Chemical Specialties Manufacturers Assn., Washington, D. C., Dec. 4, 1956.



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thousand square feet, we arrive at the following picture:

General Office Areas		Executive and "Show" Areas	
Dust mopping	11 min/1000 sq. ft.	Dust mopping	11 min/1000 sq. ft.
Damp mopping	15 min/1000 sq. ft.	Damp mopping	15 min/1000 sq. ft.
Buffing	15 min/1000 sq. ft.	Buffing	15 min/1000 sq. ft.
		Felt Pad	10 min/1000 sq. ft.
			51 min/1000 sq. ft.

At this point I can feel the vibrations emanating from the proponents of waxed floor maintenance. Anticipating your questions I realize full well that in present day waxed floor maintenance, the common practice is not to damp mop and buff every square foot of resilient floor each night. You are right when you reflect that only aisles and "front" areas receive this maintenance on a nightly basis. Unfortunately, the far reaches of office areas, the floor space under desk knee-holes, and those areas less likely to come under the surveillance of the top brass, or an important visitor, are generally left to possibly a weekly frequency. I submit, however, that this is a concession of quality and we are here discussing "first class" or proper maintenance.

Proceeding further, let us see how insistence on first class waxed floor maintenance limits the sanitation administrator in his square foot allocation of cleaning personnel. Rather thorough office cleaning studies conducted in the Port Authority main office building in Manhattan reveal that approximately five minutes per thousand square feet must be allocated for the emptying and cleaning of ash trays and emptying of waste baskets. Approximately fifteen minutes per thousand square feet must be added for the nightly dusting of horizontal equipment surfaces and weekly dusting of vertical equipment surfaces. In addition, about six minutes per thousand square feet must be added for miscellaneous project work—high dusting, cleaning of partitions, drinking fountains, etc. If we add to this total of twenty-six minutes

the forty-one minutes required for top quality waxed floor mainte-

nce, we come up with a sixty-seven minute requirement for each 1000 square feet of office floor surface. Over a six-hour work day, common among many women office cleaners in Manhattan, it would be reasonable therefore to expect a quality performance only within the limits of a 5370 square foot space allocation. This is far short of the minimum requirement of 1500 square feet an hour imposed by competitive realities as they exist in the metropolitan New York area.

How then, can a cleaning administrator, like myself, insist on top quality work at a minimum performance rate of 1500 square feet per hour? Fortunately there is a way, and the vehicle through which this degree of sanitation efficiency can be attained is the so-called resin finish.

Early Experiments

Let us again look at the past. Prior to four years ago when I was an unwilling captive of waxed floor maintenance techniques, I eagerly welcomed every suggestion on the part of "visionaries" in this business that they had a finish, not wax-like, that had real hardness and scuff resistance together with superior slip resistance and acceptable appearance. Invariably I listened and was not even frightened away when told that these finishes were not water emulsions but had volatile solvents as carrying agents. Performance tests were granted, many times to my later regret, and always resulted in disappointment. After undergoing the olfactory rigors of application, these finishes would give a "varnished" appearance, would wear in traffic patterns which could not be cor-

Water Emulsion Resins

However, even the long suffering among us have our brighter moments. Mine came when I was introduced to the so-called water emulsion resins a number of years ago. They were far from perfected in those days. Some of them crumbled in places where pivoting foot traffic was common and the resultant grey powdering was particularly noticeable on dark floors. After a week or two of this deterioration my assistant and I were often accused of eliminating floor finishes from our maintenance plans. Jokingly, we answered that we were experimenting with a "nothing" finish. Not immediately apparent to our lay critics however was the fact that application and removal of these finishes involved no unpleasantness or difficulty when compared with wax. They generally leveled well without streaking and gave a subdued, satiny appearance that worked in well with the non-reflective surfaces of painted walls and partitions that were coming in vogue at the time. Of great importance, they were hard and did not become uniformly discolored with engrained soil. Just as important, buffing did not improve their appearance and thus could be eliminated.

Dry Maintenance

This last observation on our part led to the suggestion that we could at last take the calculated risk of switching over to dry maintenance methods. We did not hesitate. Mops and mop buckets were taken away from thirty odd women cleaners covering a little over 150,000 square feet of office space. Specialized sweeping tools and treated sweeping towels were instituted in their place. Damp mopping and buffing were eliminated.

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Routines, setting forth the new procedures were written and instituted, and space assignments increased accordingly. As our stripping and refinishing efforts up to that time had been at best sporadic, we found it necessary to channel some of our labor savings into the creation of two, three man scrubbing and refinishing crews. This guaranteed us a seven week refinishing cycle, such periodic renovation being an integral part of our plan for raising and sustaining the overall appearance level of our office floors.

Although these changes were instituted overnight, we realized our full benefits only after considerable effort in training our personnel. Of primary importance to our success in this matter has been the tremendous development and improvement of water emulsion resins over the past four years. Manufacturers are to be commended for this effort. More important, they should be encouraged in every conceivable way to direct this same degree of effort toward removing the relatively few and minor kinks remaining in resin finishes.

Appearance

Having made these changes let's take a close look at what has happened to the appearance of our main office building, the floors of which are almost 100 percent under resin finish maintained by dry maintenance techniques. First, under a four year renovation and expansion program our office space has doubled to approximately 300,000 square feet of newly laid asphalt and vinyl tile, of almost every conceivable color. Fortunately, almost all of it is of a light hue, which though scuffing more noticeably, does not show the trackage of grey dust, a problem in New York, and particularly in our building where over a dozen huge elevators raise over the road tractors and trailers, with their accumulated soil, to various floor levels in the building.

We have indicated above that scuffing of our light colored

floors is not a serious problem. Under resin finishes and dry maintenance methods we have found that scuffing is practically non-existent in the great percentage of office area where straightaway walking is possible. We have found scuffing under desks to be minimized to such a degree that special operations are not necessary in between refinishing cycles. Although scuffing around entrance doors accumulates to a considerable degree in the sixth and seventh week of our refinishing cycle, we have not found it objectionable enough to supplement our dry maintenance with wet mopping in these very limited areas. It should be pointed out that we could, at a negligible expenditure of labor, spend a few minutes once every two weeks in touching up around these doors. We must confess to a bit of stubbornness however. We are shooting for quality maintenance under 100 percent dry techniques. Furthermore we are almost there and believe that the complete fulfillment of our objective will come with the improvements taking place in the compounding of resin finishes.

What about gloss? We have found the subdued, satiny finish of resins not only acceptable to those whom we must please but preferable, and certainly in keeping with modern conceptions that highly reflective surfaces can have only a jarring effect on the eyes and nerves of personnel working in these areas.

What about durability and lasting appearance? At the present time we are interested in seven weeks durability, the limit of our refinishing cycle. We notice but slight deterioration of finish in 95 percent of our office floors after seven weeks and strongly suspect that in some areas our refinishing cycle could be extended. We would like to point out at this time that a uniformly soiled and yellowed waxed finish brought up to a deceiving gloss through buffing, would not, in our eyes, be acceptable on these light floors, and certainly not comparable to what we are now achieving.

Safety and Economy

What about slip resistance? We have, in our opinion, eliminated falls of office workers due to slipperiness of finished resilient floors. Although I run the risk of incurring the wrath of the safety engineers, it is my opinion that some manufacturers at the present time can expediently progress toward greater scuff resistance in the compounding of resin finishes through a slight, noncritical, sacrifice of slip resistance. Let me add however that I speak only from my own experiences with this problem and do not presume to understand marketing aspects of the matter.

What about maintenance costs? This to us has been the clincher. Routine nightly maintenance is confined to sweeping with a specialized tool and treated sweeping towel at an average rate of eleven minutes per 1000 square feet. Adding this to the twenty-six minute per 1000 square feet requirement for other routine office cleaning operations we come up with a total expenditure of thirty-seven minutes for every thousand square feet of office space. Translated into possible assignment for a woman cleaner working a six hour shift it means a space assignment of 9730 square feet, comfortably ahead of the 1500 square foot an hour minimum rate that is threatening to become a standard in the New York area.

In conclusion I would like to state that there is little that is original in our work with resin finishes and dry maintenance techniques. Credit for the origin and development of water emulsion resins belong to the compounders. Credit for the development of dry maintenance sweeping tools and techniques belong to others. Our contribution has been confined to the wide application of resin finishes and the complete institution of dry maintenance techniques in office cleaning work.

Public health importance of

INSECT PROBLEMS

By A. D. Hess*

Chief, Logan Field Station Section
Public Health Service
Logan, Utah

Part II

FLEAS are pests of most warm-blooded animals. Here in the United States we are primarily concerned with the human flea (*Pulex irritans*), dog and cat fleas (*Ctenocephalides canis* and *C. felis*), and rodent fleas (the latter in connection with the transmission of plague and murine typhus). In addition to disease transmission, flea bites often produce severe reactions in humans. Many fleas readily interchange hosts, and dog and cat fleas are severely annoying to man in many parts of the country. They sometimes occur in enormous numbers around houses, and hundreds of fleas may get upon the legs of an individual walking across an infested lawn. Dusting of the breeding places with insecticides, such as DDT and chlordane, has given effective control, but there are increasing reports of situations in which fleas are failing to respond to this treatment.

Plague is primarily a disease of rodents which is spread to man by the bite of infected rodent fleas. In this country plague is confined to the western states. Scattered human cases still occur, but there have been no major outbreaks since the one in California in 1924. This was long before the development of DDT, but this insecticide has been used with success in other countries to control the oriental rat flea (*Xenopsylla cheopis*), which transmits plague from domestic

rats to man. The newer insecticides and rodenticides are powerful tools for the fight against plague, and urban plague now appears to be disappearing from most of its endemic centers. Wild rodent plague, or sylvatic plague, is, however, still widely distributed. In the western United States enzootic and hyper-enzootic areas of sylvatic plague are widespread, some of them being immediately adjacent to our larger port cities. These provide a constant hazard for the transfer of plague from wild to domestic rodents and thence to man. It now appears that the more important natural reservoirs of plague may be the smaller rodents such as mice and voles rather than the larger rodents such as ground squirrels, prairie dogs, and rabbits. We must learn much more about the comparative biology and plague propagating potentials of the natural hosts and vectors of sylvatic plague if we are to develop satisfactory methods for protecting our urban populations from infiltrations of this disease.

Murine typhus is another disease which is carried by domestic rats and is transmitted from them to humans by the oriental rat flea. This disease has been successfully combatted on a wide scale, both in this country and abroad, through the use of DDT to control the flea vectors. As with malaria, we may say that we now have proven methods of control and need merely to maintain vigilance to detect and

eliminate any new foci which may appear in the endemic areas of our southern states.

To date, there is no evidence of the development of DDT resistance by the oriental rat flea.

Ticks and Mites

TICKS and mites are non-hexapodous arthropods and, technically speaking, would not come under the subject of the present paper; however, for practical purposes they are included in our review of insect problems of public health importance.

The public health importance of ticks is due primarily to their disease transmitting potentials, although it is not a particularly pleasant experience to have to remove engorged ticks from your body after returning from a camping or fishing trip. Among the more important human diseases transmitted by ticks in this country are Rocky Mountain spotted fever, Colorado tick fever, tularemia, relapsing fever and tick paralysis (the latter probably caused by a neurotoxin rather than an infectious agent). Although ticks may be involved in the transmission of Q fever, other sources of human infection are believed to be much more important. Although the development of antibiotics and vaccination (particularly in the case of spotted fever) have lessened our fear of these diseases, tick control will undoubtedly play an increasing role in the prevention of human infection. The develop-

*Paper presented before the 42nd mid-year meeting, Chemical Specialties Manufacturers Assn., Chicago, May 22, 1956.

ment and utilization of national parks and other outdoor recreational areas is proceeding at an accelerated rate, and each year millions of people are exposed to ticks during vacation trips. Protection from tick infestation in recreational areas is often possible by treatment of the ground and vegetation with DDT insecticides. Treatment of shrubbery along public pathways for the control of seed ticks and nymphs also shows promise.

Among the various families of mites, the most important from a public health standpoint are the sarcoptid mites which cause human scabies, dermanyssid mites which transmit rickettsialpox, and the trombiculid or chigger mites which cause severe itching and dermatitis from the proteolytic enzyme which they inject through the skin. Bird mites were once thought to be important in maintaining the natural reservoir of encephalitis but are now believed to be relatively unimportant. Some of the newer repellents and miticides, such as dimethyl phthalate and benzyl benzoate, offer excellent protection from mites and chiggers, and can be applied either directly to the body or impregnated in field clothing. The treatment of lawns and gardens with insecticides such as benzene hexachloride has also been effective in freeing these areas from chiggers. As with ticks, the insecticidal protection of picnic grounds and other outdoor recreational areas from chiggers is a highly desirable practice.

Miscellaneous Insect Problems

THERE are various other insect problems of public health importance in the United States. Some of the conenose bugs (Reduviidae) may inflict painful bites, as for example, the kissing bug (*Reduvius personatus*) and the wheel bug (*Arilus cristatus*); other species of the genera *Rhodnius*, *Panstrongylus*, and *Triatoma* are important as vectors of Chaga's disease (American trypanosomiasis) in

Latin America. Several species of *Triatoma* have been found naturally infected with *Trypanosoma cruzi* in our southwestern states, and some indigenous cases of Chaga's disease have recently been reported in Texas.

Household pests such as cockroaches and bedbugs are not considered of much public health importance. They are, however, often indicators of poor sanitation, and some, such as cockroaches, may possibly be carriers of filth diseases. The use of DDT, chlordane, and other newer insecticides for the control of these insects has been a great boon to the pest control operator, and the recent development of insecticide resistance has been the cause of considerable concern.

The human body louse (*Pediculus humanus*) is notorious as a disease vector, being involved in the transmission of trench fever, epidemic relapsing fever, and the highly fatal epidemic typhus. Pediculosis is now relatively unimportant among our civilian population, but it is still very important to the military with regard to troops operating in foreign countries. Louse-borne diseases seem to thrive under the conditions which prevail during wars and famine. Our Armed Forces have, therefore, been much concerned over the development by body lice of resistance to DDT powders; however, substitute formulations have been developed which appear to be effective against these resistant strains.

The black widow spider (*Latrodectus mactans*), one of the few poisonous arthropods in the United States, is of public health importance in the southern states. Chlorinated hydrocarbon insecticides, such as chlordane, give effective control when applied directly to the infested sites.

Summary and Conclusions

INSECTS of public health importance are defined as those which transmit disease, bite, or otherwise disturb man's equanimity. These include mosquitoes, biting

and non-biting flies, fleas, ticks and mites, and other miscellaneous species.

Encephalitis is now the most important insect-borne disease in this country. Eight or ten other arthropod-borne diseases are still of some concern.

Public health insect problems in the United States are increasing rather than decreasing. This is due primarily to: (1) the increase of breeding potentials through faulty environmental sanitation practices; and (2) the development of insecticide resistance.

It is concluded that the solution of our major insect problems of public health importance, particularly those involving flies and mosquitoes, should be based primarily on preventive or source reduction techniques, and secondarily on judicious use of insecticides.

Much additional research on the biology and ecology of insect vectors is needed in order to develop the most effective control measures.

Michael H. Sloman Dies

Michael H. Sloman, former director of marketing of Monsanto Chemical Co., St. Louis, died Dec. 31, in White Cross Hospital, Columbus, O., after a long illness.

Mr. Sloman joined Monsanto in 1953 when it purchased Detergents, Inc., Columbus, O., of which he was general manager. While at Monsanto, Mr. Sloman directed the firm's sales promotion activities. His last position was as chairman of Mumm, Mullay & Nichols advertising agency in Columbus.

Mr. Sloman began his career in World War I in the United States Department of Information. He served later as an advertising aide with the Goodyear Tire and Rubber Co., The Chicago Examiner, The New York American and The New York Post.

Surviving are his wife, Katherine; two sons, Christopher L. and James A.; two daughters, Mrs. William K. Vaughan and Mrs. Edward T. Lawless.

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Cosmetic Chemists Elect Strianse

Papers on analysis of aerosols, interference with preservatives by nonionic emulsifiers, and presentation of medal award to Florence Wall are highlights of 11th annual meeting

THE phenomenon of interference with preservatives by nonionic emulsifiers and ways to combat it, analysis of aerosols by gas chromatography, a report on recent developments in glass containers, election of new officers and directors, and the presentation of its eighth annual medal award were among the highlights of the eleventh annual technical meeting of the Society of Cosmetic Chemists. The meeting, held at the Hotel Commodore, New York, Dec. 13, was one of the best attended in the history of the society.

The one day meeting featured morning and afternoon discussion sessions at which technical papers were presented. At a group luncheon officers for 1957 were installed, including Sabbat J. Strianse, director of research for Shulton, Inc., Clifton, N. J., as president of the society.

The day's events were climaxed by the annual banquet at which Florence E. Wall, consulting chemist, author and lecturer, was presented with the eighth Medal Award of the Society of Cosmetic Chemists. She is the first woman to have received the award.

In their paper, "The Interference of Nonionic Emulsifiers with Preservatives, III", M. G. deNavarre and Harold E. Bailey of Cosmetic Laboratories, Inc., Detroit, pointed out that this condition is becoming more important as the use of nonionic emulsifiers in a variety of products increases. The phenomenon of surfactant interference, incidentally, has been recorded in the literature only since 1950. It is unusual also in



Sabbat Strianse

that its occurrence is sporadic, and thus is very hard to explain.

The paper is based on a study of 40 nonionics tested in the presence of 10 different microor-

ganisms and a variety of preservatives. The latter included, among others: methyl para-hydroxybenzoate; sorbic, benzoic and dehydracetic acid; several anti-biotics and new potential preservatives. All tests in this study were performed at constant pH of 5.6 and temperatures between 20 to 25°C. A synthetic Jaag media was used. Methyl para-hydroxybenzoate was found to be less sensitive to interference by nonionics than benzoic or sorbic acid, for instance. However, if the ratio of preservative to nonionic drops below one to 10, interference occurs. Greatest impairment of preservative action is caused by ethylene oxide adducts of esters and alcohols. If nonionics are combined with cationics, interference is

(Turn to Page 162)

Speakers at the Dec. 13 meeting of the Society of Cosmetic Chemists included: top, l. to r.: M. G. deNavarre, Dr. Ernest Yeager, Dr. Donald A. M. Mackay and Dr. W. L. Courchene. In lower photo are speakers Dr. Charles L. Teitelbaum, M. J. Root (center) and Dr. William R. Prindle (second from right), Ross C. Whitman (extreme right) and William Markland (second from left) served as program chairman and assistant chairman, respectively.



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CSMA Meeting

(From Page 67)

of The Travelers Insurance Co., Hartford, Conn. In the paper, entitled, "The Insurance Interest as a Part of the 'Consumers' Viewpoint," Mr. Rapp said that this interest is not alone an internal one but applies to the settlement of claims. Injuries are expensive in the light of the present judicial attitudes toward such claims, Mr. Rapp declared. Many slipping and falling accidents are preventable through the correct design of and the treatment and maintenance of floors and stairways. Lighting is an important item.

Insecticide Division

A PANEL discussion of labeling, regulatory and toxicological problems relating to insecticides highlighted the first meeting of the Insecticide Division, Tuesday morning, Dec. 4. Prior to the panel, Carlos Kampmeier of Rohm & Haas Co., Philadelphia, chairman of the division's advisory committee gave his address as chairman. Moderator for the panel was Edward J. Campau of Standard Oil Co. of Indiana, Chicago. Panel members included:

Dr. W. G. Reed, head, Pesticide Regulation Section, U. S. Department of Agriculture, Agricultural Research Service, Washington, D.C.; S. C. Billings, assistant to the chief, Pesticide Regulation Section, U.S.D.A.; F. J. McFarland, Bureau of Biological and Physical Sciences, Department of Health, Education and Welfare, Food and Drug Administration, Washington, D.C., and C. H. Jefferson, Department of Agriculture, Production Services, Plant Products Division, Ottawa, Canada.

A review of developments in several of the chemical specialties fields was featured in the address of CSMA president, Dr. E. G. Klarmann, Lehn & Fink Products Corp., New York, during the general session following the Tuesday, Dec. 4, luncheon. Dr. Klarmann also singled out the work of H. W. Hamilton, CSMA secretary, of whom, he said, "probably no one

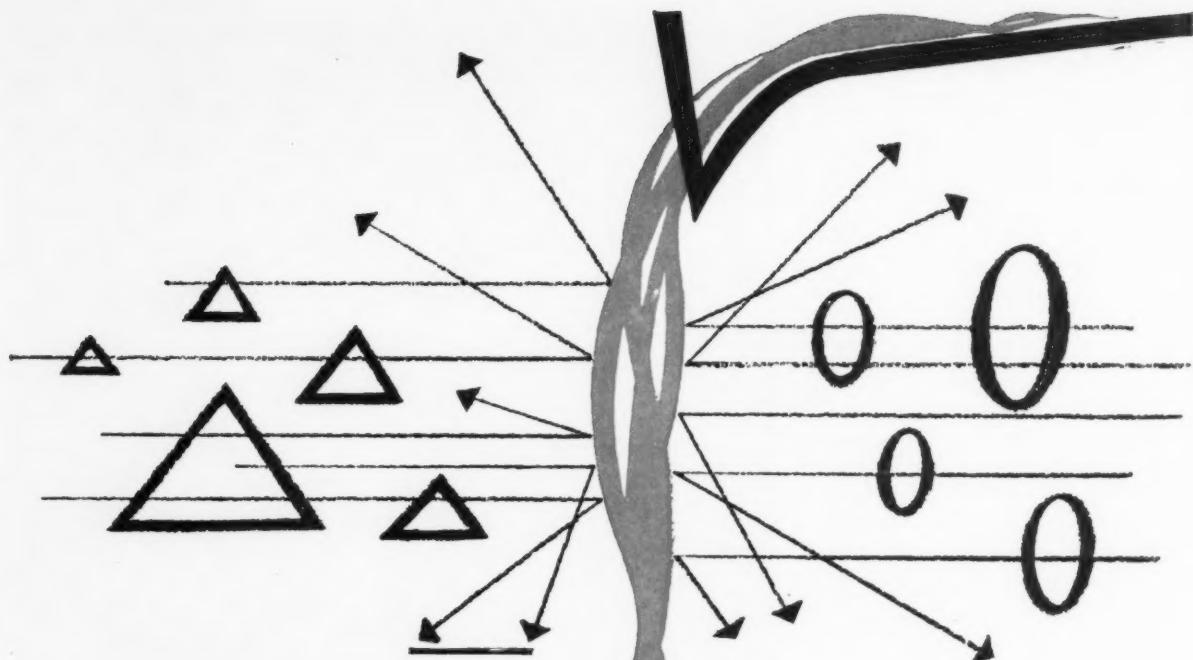


Top: panel of experts who discussed labeling, regulatory and toxicological problems pertaining to insecticides on Dec. 4, l. to r.: S. C. Billings and Dr. W. G. Reed, U. S. Department of Agriculture, E. J. Campau, Standard Oil Co. of Indiana, moderator, C. H. Jefferson, Canadian Department of Agriculture and F. J. McFarland, Food and Drug

has lavished more devotion upon our organization . . ."

Administration. Second photo is of Dr. George F. Reddish acknowledging receipt of the 1956 CSMA Achievement Award. Third is John N. Hart, director of employee relations, B. F. Goodrich Co., luncheon speaker Dec. 5. Bottom: R. E. Sievert, Frank B. Ross Co.; H. L. Sanders, Ninol Labs., Manuel N. Fineman, of Puritan Chemical.

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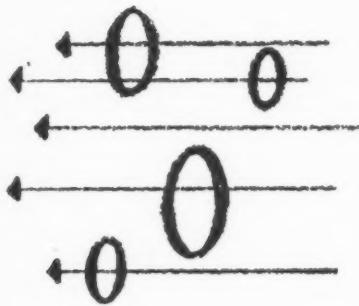


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secticidal aerosols which is clearly affected by the selection of the valve with respect to its geometry was the conclusion of a paper presented during the Aerosol Division meeting the afternoon of Dec. 4. The paper, "Insecticidal Performance of Stobane Aerosols as a Function of Particle Size and Formulation of Sprays," by John C. McCool, B. F. Goodrich Research Center, Brecksville, O., indicated that in the case of "Stobane" aerosol insecticides, this distribution appears to be characterized by an MMD value of about 17 microns. "This is approximately the value we determined for OTA," Dr. McCool pointed out. He added: "The valve factor seems to be of relatively greater significance than that of formulation changes within reasonable limits. The method of measuring particle sizes used here represents closely the tentative procedure as drawn up by the CSMA subcommittee on Particle Size Analysis of Aerosols. Its use is indicated as a relatively convenient method of providing technical information with which to assist in developing formulations having optimum insecticidal performance."

A new technique for analyzing precisely and rapidly all the volatile components of aerosol products was described in a paper given by Morris J. Root, technical director of G. Barr and Co., Chicago aerosol loader. The paper, "Analysis of Volatile Aerosol Constituents," was written by Mr. Root and M. J. Maury, chief chemist of Barr. The aerosol technological advance consists of gas-liquid phase chromatography by means of a chromatograph, an electronic instrument that separates, identifies and measures the readily vaporizable components of an aerosol product.

The new technique enables more exacting quality control than ever previously possible, according to the authors. It facilitates identification and analysis of propellants and propellant mixtures, checking of volatile components for contami-

nation, and detection of air in liquid and gaseous phases. Prior to chromatography in aerosol technology, such analysis was impractical due to the highly varying boiling points of the volatile constituents.

The operation of the chromatograph was described as follows:

"1.) A sample of aerosol preparation in gas or liquid form, at either atmospheric or reduced pressure, is piped into the chromatograph.

"2.) The mixture enters a coiled copper column, filled with a carrier of solid material.

"3.) Partition occurs as the volatile components are carried through the column by helium.

"4.) Separately, at intervals, the components emerge from the column and are recorded electronically on a chart.

"5.) The time required for each component to appear on the chart permits qualitative analysis.

"6.) Quantitative analysis is performed by measuring the area under each component's curve on the chart."

The method, as outlined above, according to the authors, takes only a few minutes, with an accuracy of plus or minus a few tenths of one per cent.

The final paper of the session, "Aqueous Aerosols — Opportunities and Problems," by Lee D. Callans and John Griswold, General Chemical Division, Allied Chemical & Dye Corp., New York, appears elsewhere in this issue.

Disinfectant Division

APANEL discussion of "Emergency Disinfection and Contamination" highlighted the first session of the Disinfectant and Sanitizers Division meeting the afternoon of Dec. 4. Following introductory remarks by Saul Kaye, Sterilant Division, Ben Venue Laboratories, Inc., Bedford, O., John M. Whitney discussed "Public Health and Civil Defense Problems in Emergencies." "Important tools for sanitation services: insecticides, rodenticides, disinfectants, detergents, etc., and equipment for their application must be made available in adequate quantities. FCDA is stock piling such tools," Mr. Whitney concluded.

Following a paper on "De-contamination Problems Encountered in Disasters," by Milton J.

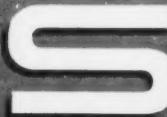


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Technical data, samples, and additional information, available on request.

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Foter and Robert Angelotti, Milk and Food Research, Robert A. Taft Sanitary Engineering Center, Public Health Service, Cincinnati, O., Glenn G. Slocum, Chief, Division of Microbiology, Food and Drug Administration, Washington, D. C., made "Some Comments on Food and Drug Protection and Sanitation in Emergencies." Mr. Slocum pointed out that the FDA Act does not contain any extraordinary provisions by which the Food and Drug Administration can act in emer-

gencies such as natural disasters. The Act covers mainly food contamination. Mr. Slocum explained that the problems of decontamination in natural disasters such as floods are complicated by the fact that under existing standards of sanitation in the U.S. there is little salvageable material. Material which is considered salvageable is usually stored in areas above the flood level or packed in cans. Even canned foods are difficult to salvage, according to Mr. Slocum. Many closures

on food containers cannot be satisfactorily cleaned from silt.

"Further advances and improvements in decontamination procedures may be expected in the future," Mr. Slocum said. He added that "Recent years have seen marked improvements in food plant sanitation as the result of the introduction of new synthetic detergents, sanitizers, disinfectants, pesticides, etc.

"The Use of Semi-Trailer Vans as Mobile Decontamination

F. W. Rau, Frank B. Ross Co., Inc. B. W. Young, Wax & Rosin Products and Robert Strayer, Smith & Nichols, Inc.; Jack Hohenstein, Boyle-Midway, Inc., and Jack Conover, L. Sonneborn Sons, Inc.; Arthur F. Alfers, Z&W Manufacturing Corp., Simon Selig, and Lyons B. Joel, Selig Co.; Wiley Pickett, Pennsylvania Salt Manufacturing Co., A. B. De Meurisse, Barrett Div., Allied Chemical & Dye Corp., F. A. Lucard, Pennsalt, Jean Baer, Pennsalt, Frederick P. Boehm, Solvay Process Div., Allied Chemical & Dye Corp.; Edward H. Zellar, Mo-

jonnier Associates, Inc. and George Hartz, John Powell & Co. Div., Olin-Mathieson Chemical Corp.; N. G. Smith, Aerosol Techniques, Inc., H. T. Hillard, Gallowhur Chemical Corp.; Edgar Black, Stepan Chemical Co. and Edward J. Kearns, John H. Breck, Inc. Don Begley and Vincent Hall, Reilly Tar & Chemical Corp., John Bahlburg and Warren B. Stanton, Wyandotte Chemicals Corp.; G. R. Cunningham, William Zinsser & Co. and John S. Lyall, Petrolite Corp.; Daniel Geary, Revlon, Inc., F. G. Taylor,

Lehn & Fink Products Corp., Alan S. Goodman and Theodore Heilig, Regal Chemical Corp. Harold G. Lederer, R. M. Hollingshead Corp.; Newell Wyatt, Shea Chemical Corp., Edwin R. Lasner, Connecticut Chemical Research Corp., W. J. Barrett, Shea Chemical Corp.; Henry E. Blanchford, Mac Lac Co., and W. A. Raisley, van Ameringen-Haebler, Inc.; Edward F. Helter, Powr-Pak, Inc., H. Locke, Reefer-Galler, Inc., John F. Odeneal, Fairfield Chemical Division Food Machinery & Chemical Corp., and Fred Present, Connecticut Research Corp.





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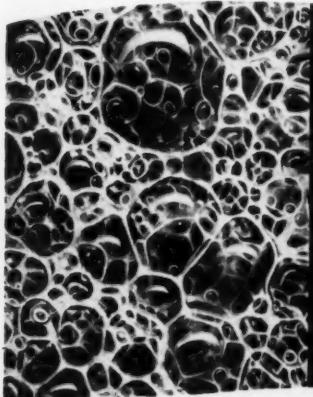


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Chambers for Foodstuffs" was discussed in a paper of that title by Bernard F. Surkiewicz, David R. Spiner, Saul Kaye and Benjamin Warshowsky. Mr. Warshowsky, Chief, Decontamination Branch, U.S. Army Biological Warfare Laboratories, Fort Detrick, Md., presented the paper. He pointed out that vapor phase sterilants could be used for decontamination if applied according to prescribed conditions. Chemicals used included formaldehyde, methyl bromide and ethylene oxide. The precise conditions under which these chemicals could be used in decontamination work were described by Mr. Warshowsky.

In discussing "Biological Decontamination of Military Vehicles," J. Clifton Spendlove of the Dugway Proving Ground, U.S. Army Chemical Corps, Dugway, U., pointed out that vehicles contaminated with bacterial spores presented a special decontamination problem in biological warfare defense to research personnel at Dugway Proving Ground. He pointed out that:

"It has been demonstrated that wood, cloth, etc., of vehicles contaminated with these organisms, including penetration into small crevices, cannot be satisfactorily decontaminated using disinfectant sprays where complete eradication is desired. A gaseous material, it was thought, would penetrate the cracks, crevices, and porous material and render equipment free of viable organisms. Two fumigants were considered, ethylene oxide and a mixture of formaldehyde and methanol. Ethylene oxide was abandoned because of expense and inflammability. Formaldehyde is inexpensive, relatively non-inflammable and has high killing power in the proper concentration. Formaldehyde vapor was successfully used to decontaminate military vehicles on a large scale."

The CSMA now has 392 members, H. W. Hamilton, revealed in his report as secretary of the association.

Aerosol Division

"POOR merchandising" has cut the market potential of aerosols by as much as 85 per cent in "many product categories," according to a survey conducted for the Kinetic Chemicals Division of E. I. Du Pont de Nemours & Co., Wilmington,

Del. The survey of "consumer awareness" was conducted by Daniel Starch and staff. Results of the study were presented by Ralph A. Crane, market analysis manager of Du Pont's Kinetic Chemicals Division during the joint Aerosol-Automotive Division meeting, the afternoon of Dec. 5.

Not only have aerosol marketers failed to capitalize on selling consumers on the inherent advantages of a push-button, self-spraying package, but in many cases it has even failed to tell the consumer such products are available, Mr. Crane indicated.

Completed in November, the survey was based on a national probability sample of all U.S. urban households, and findings, Mr. Crane said, represent an accurate cross-section of at least 30 million urban households, or about 61 per cent of the nation's population.

The survey showed, for example, that while 85 per cent of the nation's housewives in urban areas use a personal deodorant or antiperspirant, only a third of the 85 per cent know that such a product is now available in an aerosol package. Of the latter group, only 58 per cent have actually purchased an aerosol deodorant or antiperspirant, yet those who have tried both the aerosol and another type of packaging indicate a 2-to-1 preference for the pressurized product because of its economy, ease of application, cleanliness and greater effectiveness.

Mr. Crane also pointed out: "If through product improvement and increased selling, advertising and merchandising efforts, this percentage of users were only doubled—which is reasonable in light of package preference as indicated in the survey, additional retail sales of at least \$10 million could be achieved in that product group alone."

Citing survey results on only three out of 15 products studied in the nationwide sampling, Mr. Crane added that in the case of burn sprays only four per cent of those who use burn preparations knew that such products were available in aerosol form. The market for burn preparations in 1955, he said, was estimated at \$35 million.

Aerosol paints, lacquers and enamels, although first introduced in 1949, were familiar to only 38 per cent of the urban families interviewed, and of those, only 42 per cent had been sufficiently sold on their advantages to purchase one of the self-spraying packages.

On the plus side for merchandisers, the du Pont analyst cited aerosol hair sprays as an example of successful merchandising. Sales of all types of hair preparations last year amounted to about \$160 million, he said, with the aerosol type of package being familiar to 90 per cent of the users and accounting for about half of all the sales of hair preparations.

Other features of the joint

Aerosol-Automotive Division meeting included a discussion of "Pressurized Packages for Automotive Use," by J. Myron Kimmel, DeMert & Dougherty, Inc., Chicago; "Fragrance in Aerosols," a paper by A. Dingfelder of Felton Chemical Co., Brooklyn, and "The Technical Evaluation of Metal Containers for Automotive Products," by G. E. Curtis and R. G. Nugent of American Can Co.'s technical services division, Maywood, Ill. The paper by Mr. Dingfelder appears elsewhere in this issue.

The use of chlorothene (methyl chloroform) as a replacement for carbon tetrachloride and a foam depressant in aerosols was outlined by J. W. Barber of Dow Chemical Co., Midland, Mich.

In his paper, "The Versatility of Chlorothene in Aerosols", Mr. Barber pointed out that the material has low toxicity, a good evaporation rate and has a not unpleasant odor. Because of its low toxicity, a good evaporation rate and has as a replacement for carbon tetr. Present indications are that the material will find its largest use in cold cleaning, with aerosols second. Chlorothene is of low viscosity, has no flash or fire point, has a moderate vapor pressure rate, is water white in color and its tolerable exposure is 500 ppm in air. It exhibits good solvency for a wide range of materials, which makes it useful in aerosols. Chlorothene's use as a foam depressant in pressure packaged products is also indicated because of its vapor pressure, particularly with type 12 propellants. Where it can be used for aerosols chlorothene will cut costs in such products as insecticides, non-personal deodorants and reodorants, according to Mr. Barber. The use of chlorothene is definitely indicated in general cleaning and in spot removal aerosol applications, the speaker stated. In addition, he said, 25 to 30 per cent of the material may be used in hair lacquer formulations without toxicity risk.

"There is no difference in hair lacquers containing 26 per cent chlorothene and those containing no chlorothene as far as the effect on skin, inhalation or eye sensitivity is concerned", Mr. Barber said. The material is also indicated in water phase aerosols, he concluded.

Soap Disinfectants

CATIONIC softeners, which markedly improved fabric "hand" and drape, were the subject of a paper of that name by Paul Du Brow and Warner Linfield of the product research section, Armour Chemical Division, Armour & Co., Chicago. The paper was presented

by Mr. Du Brow before a joint session of the Disinfectants and Sanitizers and Soap, Detergents and Sanitary Chemical Products Divisions, held the afternoon of Dec. 5. Softeners, usually long-chain substituted cationics, important to most textile processors and finishers, more recently have shown increasing appeal for the commercial and home laundry trades, according to Mr. Du Brow.

The effects on quaternaries of the revision of the Milk Ordinance and Code of the U.S. Public Health Service were outlined in a paper by Myron W. Cucci of Milk Plant Specialties Corp., Rochester, N. Y. By revision of Appendix F of the Code, earlier this year, properly formulated quaternary ammonium compounds may be used as bactericides in the dairy industry. The direct effects of the act, according

to Mr. Cucci, are the following:

"1.) To permit the producer to use quaternaries for routine sanitization of the cows' udders and teats prior to milking.

"2.) To permit the use of quaternaries for sanitization of milking equipment.

"3.) To permit the practice of 'scoring against' a dairy farmer or dairy plant because of the usage of quaternaries."

The indirect effect of the act is to extend application of quaternaries to other areas within the dairy industry.

These applications listed by Mr. Cucci include:

"1.) The control of algae and slime in waters used as a coolant of plate pasteurizers, i.e., high temperature short time or 'flash' type.

"2.) The control of yeasts and molds on the floors, ceilings, and walls of milkhouses.

"3.) The control of yeasts and molds in the cottage cheese industry.

"4.) The control of bacteria and algae in cooling vats used for milk cans on the farm. This application also tends to reduce rusting of milk cans because of the presence of alkaline polyphosphates in the quaternary formulations.

"5.) The control of bacteria and algae in the water used in ice bank type of refrigerated farm tanks."

Some of the basic operating policies which guide the insecticide testing laboratory of the Wisconsin Alumni Research Foundation at Madison, Wis., were outlined in a paper by George S. Kido, entomologist of the laboratory. In his paper, "Some Aspects of Commercial Insecticide Testing," Mr. Kido mentioned these operating policies:

"1.) The employment of a full time entomological staff to handle test projects.

"2.) The observance of strict confidence regarding the outcome or results of tests for clients.

"3.) The maintenance of strict impartiality for all tests conducted."

Recent developments in the metabolism of insecticides through the use of radioisotopes were discussed in a paper by Dr. Richard W. Fay, Department of Health, Education and Welfare, Public Health Service, Communicable Disease Center, Savannah, Ga. In his paper, "The Use of Radioactive Compounds in the Study of Insecticide Metabolism," Dr. Fay said that more thorough elucidation of the metabolic fate of DDT in various types of insects and in rats has been made possible through the use of the radioactive insecticide. Current



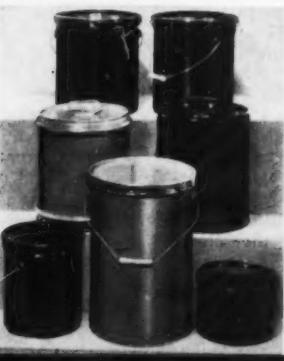
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comparison of results of radioassay and Schecter-Haller colorimetric determinations reveal considerable differences in many cases, he pointed out. Metabolism of DDT as reflected in fat, feces, bile, and lymph analysis in the rat lead to a complex of compounds in certain cases not Schecter-Haller positive.

A major development in the increasing duration of insect repellents has been the perfection of clothing repellents, according to Dr. V. G. Dethier of Johns Hopkins University, Baltimore, in a paper entitled "Attractants and Repellents." The aim of research to develop repellents with which to impregnate clothing has been to increase the ability of compounds to withstand aging, wear and laundering.

A new and effective synergist for insecticides in spray or aerosol form based on pyrethrins, allethrin and cycloethrin for use against house flies, mosquitoes, cockroaches and Japanese Beetles was described in a paper by three entomologists of the U.S. Department of Agriculture. The paper, "Evaluation of a 3,4-Methylenedioxyphenyl Acetal as a Synergist for Pyrethrins and Allethrin Against House Flies, Mosquitoes, Cockroaches and Japanese Beetles," was prepared by J. H. Fales, O. F. Bodenstein and Morton Beroza of the Entomology Research Branch, Agricultural Research Service, U.S.D.A., Beltsville, Md. The new synergist, to be marketed under the trade name "Sesoxane" by Shulton, Inc., Clifton, N. J., according to Mr. Fales, caused a high degree of synergism when tested against the four groups of insects mentioned above. When tested alone, the synergist caused some mortality of house flies but little knockdown.

Aerosols containing the new synergist and pyrethrin or allethrin showed no loss of performance after storage for 15 months. After 12 months storage sprays containing the synergist and allethrin lost some activity but pyrethrum sprays were unaffected.

In most of these tests, Mr. Fales said, formulations containing this new synergist caused higher knockdown and mortality than the best commercially available synergists for pyrethrum and allethrin.

Recommendations for optimum performance of wax filters were contained in a paper of that title by T. M. Jackson, Jr., product manager, Celite Division, Johns-Manville Products Corp., New York. The paper was presented during a meeting of the Waxes and Floor Finishes Division, the afternoon of Dec. 5.

He briefly reviewed filter aids used, described their application in several types of equipment popular in the industry. Operational features and cost data for the different types of filters were indicated. The paper concluded with a discussion of the actual operation of wax filters. Those features of operation which can cause trouble were discussed in detail, and recommendations for optimum performance outlined.

Earlier the session heard the second portion of "Floor Finishes, Water Emulsion, Non-Buffable Progress Report" by James B. Snider, Chief, Commodity Section, No. 2, Standardization Division, Federal Supply Service Administration, Washington, D. C. Also presented at the session was a discussion of "Some of the Known Certainties and Uncertainties of the Patent Law," by Wallace D. Newcomb, Paul & Paul, Philadelphia.

A review of "Resins for Use in Resin Finishes" was given by

Herbert J. Mellan, Durez Plastics Division of Hooker Electrochemical Co., Niagara Falls, N. Y., newly elected president of the Western New York Paint & Varnish Production Club, being congratulated by Joseph F. Battley, president of the National Paint Varnish & Lacquer Assn.



Charles O'Connor of Shanco Plastics & Chemicals, Inc., Tonawanda, N. Y.

Daniel Schoenholz of Foster D. Snell, Inc., New York, reported that the Dura slip resistance tester, a compact, automatic apparatus for determining the static coefficient of friction, when evaluated against the James Machine was found to yield comparable results.

A tabular method for determining the proper balance of a three component floor finish system was explained by Roland M. Avery, Jr., of U.B.S. Laboratories, Inc., Cambridge, Mass. Mr. Avery's paper, "A Practical Approach to Compounding Floor Finishes Containing Polymer Emulsions," pointed out that polymer emulsions have introduced a third major raw material into the emulsion floor finish field.

A three component system of polymer, alkali soluble resin and wax must now be evaluated, he pointed out. A proper balance of the three materials is necessary to get the maximum beneficial effect from each ingredient. This balance may be determined by a tabular method. This allows the selection of the best floor finish containing his firm's plasticized U-2003 "Ubatal", Loba C resin and carnauba wax. Thirteen floor finishes were blended from these three major raw materials cut to 14 per cent solids. The finishes were evaluated for gloss, appearance, water spotting, levelling, wet abrasion and removable.

An analysis of the test results was made in the same tabular form used to develop the formulae. The method makes possible quite rapid evaluations of many three component systems, Mr. Avery said.

New Armour Amines

Two new long-chain aliphatic amines, designed for use in corrosion inhibition, quaternary production, flotation processes, adhesion improvers and chemical intermediates, were introduced recently by the chemical division of Armour and Co., Chicago.

Called "Armeens O" and "OD," the products exhibit a low solidification point and good solubility in almost all organic solvents except the glycols. Further information and samples can be obtained from the chemical division of Armour and Co., 1355 West 31st St., Chicago.

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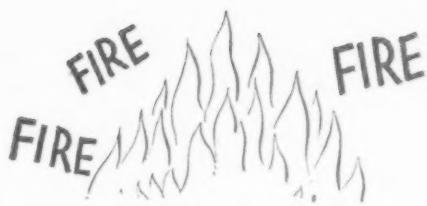
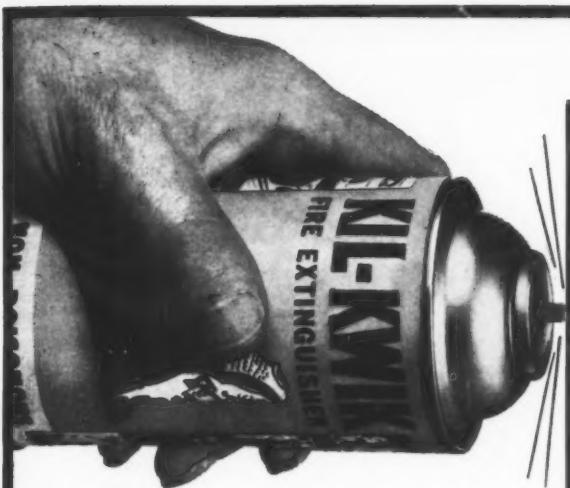


**Here's a big market...
and the valve
to do the job best!**



AEROSOL VALVES made by the

manufacturer of the Standard Tire Valve since the first Automobile



NOW! SCHRADER ONE SHOT VALVES

1

STRIKE OR PRESS TIP AGAINST HARD SURFACE . . .

2

AND AIM CAN DOWN AT BASE OF FLAMES

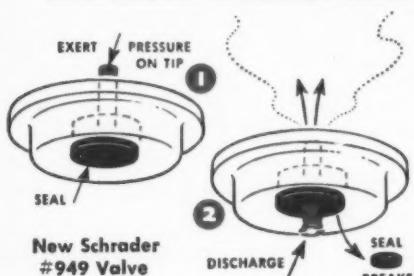
FOR FIRE EXTINGUISHERS



Get into the growing home fire extinguisher market *fast* with Schrader. Order the single-discharge valves you need . . . now. Absolutely non-clogging, positive action of the plastic valves makes them practical for your mass selling. Gas-tight feature of valves makes your fire extinguisher safe to store, handle. Schrader is a leading name in Aerosol valve field. Depend on Schrader for economy and good service.

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#949 Valve

AEROSOL VALVES made by the
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Division of Scovill Manufacturing Company, Incorporated Dept. SC
470 Vanderbilt Avenue, Brooklyn 38, N. Y.

Please send me samples of Schrader one shot aerosol valves Price list

Name. _____ Title. _____

Company. _____

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Have you met the

Fluid Flow "Five"?



Only Continental offers you a full line of "poly" nozzle, non-drip detergent cans

No matter how your liquid detergent sells best—in small-, medium-, or economy-sized containers—one of Continental's *five* Fluid Flow cans is tailor-made for you. Every member of this handsome package family gives you all these important selling points:



**CONTINENTAL
CAN COMPANY**

Eastern Division: 100 E. 42nd St., New York 17
Central Division: 135 So. La Salle St., Chicago 3
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EVEN POURING, NO DRIPPING Threaded polyethylene nozzle permits free flow . . . provides exact, dripless cutoff when pour is completed.

WRAP AROUND LITHOGRAPHY Solderless construction frees every square inch of outside surface for colorful decoration—even domes and tops.

LASTING BEAUTY Resistant varnish prevents marring of lithography . . . protects your sales message from the time it leaves your plant until it's in the hands of the consumer.

TOP PRODUCT PROTECTION Newly-developed enamel linings will prevent raw metal from touching your liquid detergent.

NOZZLES IN COLOR Rainbow variety to match or contrast with any can design.

Let Continental's Fluid Flow "Five" start selling for you. Call soon.

SOAP and CHEMICAL SPECIALTIES

Packaging NOTES

Vulcan Names Ovsik

John F. Ovsik has been named director of purchases of Vulcan Containers, Inc., Bellwood,



John F. Ovsik

Ill., it was announced recently by Vern I. McCarthy, president. In his new post, Mr. Ovsik will supervise the buying of materials used in the manufacture of Vulcan's pails and steel shipping containers. He formerly was associated with National Malleable & Steel Castings Co., Chicago.

New Risdon Patent

Risdon Manufacturing Co., Naugatuck, Conn., has been granted U.S. Government patent No. 2,767,023 for its aerosol spray nozzle, "Micro-Mist," it was announced recently. The nozzle, which was developed for use with water-base and other formulas which will not mix with a propellant, is said to produce a fine, dry, wide-cone spray. It is also suitable for use with conventional or ultra low-pressure applications.

Plax-Monsanto Agreement

Plax Corp., Hartford, Conn., and the plastics division of Monsanto Chemical Co., St. Louis, Mo., have concluded a distributorship agreement, effective Jan. 1, to develop and expand U. S. markets for

Plax's "Polyflex 100" polyethylene film and sheeting. The arrangement was announced jointly by R. F. Elder, Plax president, and R. K. Mueller, Monsanto vice-president and general manager of its plastics division in Springfield, Mass. Under the new marketing arrangement Plax will supplement its own sales and development activities with Monsanto's facilities in this field, while Monsanto will expand the ranges of products it offers.

New MRM Filling Machine

A new filling machine, designed to fill containers pre-packaged in a carton, has been introduced by MRM Co., 191 Berry St., Brooklyn 11, N. Y., it was announced recently. The new machine consists of a multiple head-filling mechanism — the number of heads supplied depending on the number of containers packed in the case — and is claimed to handle six-ounce to gallon-size containers of any type. Liquids, such as foam-

ing detergents, can be filled at the rate of two to six full cases per minute. All machines are supplied with a rotor chain conveyor with adjusting side rails and come in both semi-automatic or automatic models.

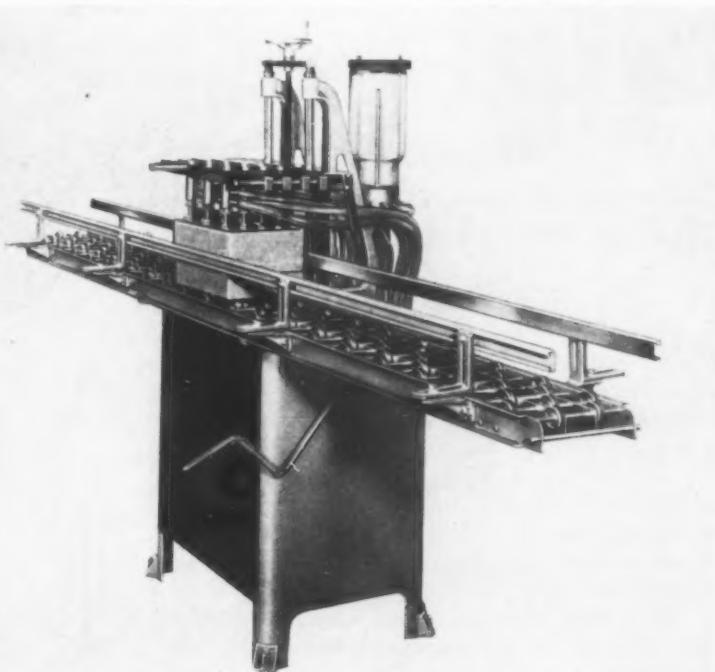
Packer Machinery Moves

Packer Machinery Corp. has moved its plant from its former location at 30 Irving Place in Manhattan to new and larger quarters in Brooklyn, it was announced late last month by Bernard Misbin, president. Packer's new address is: 109 Fourteenth Street, Brooklyn 15, N. Y.; telephone: Hyacinth 9-8850. The firm makes a wide variety of filling equipment.

Crown Names Goehring

Walter H. Goehring has been appointed manager of manufacturing of the can division of Crown Cork & Seal, Inc., Baltimore, it was announced recently. Mr. Goehring joined Crown last June as special assistant to the executive vice-president. He previously had been associated with SKF Industries, Inc., Teterboro, N. J., as general factory manager.

New MRM machine which fills containers pre-packaged in cartons.



glass
containers
move
more
chemical
specialties



Use Anchorglass[®] containers
sealed with Anchor[®] caps

GLASS containers move more household worksavers—polishes, bleaches, detergents, cleaners and chemical specialties off retailers' shelves for three important reasons. First, they're chemically inert—won't rust or corrode. Second, they're easy and safe to open and can be tightly resealed to protect unused portions. Third, a glance reveals how much is left, warns when it is time to reorder. So, be smart, pack your household specialties in glass. Anchorglass[®] Containers are available in a wide range of styles and sizes, in crystal, amber and green. For the best in glass packaging use Anchorglass Containers, sealed with efficient, dependable Anchor[®] metal or molded closures.



ANCHOR
HOCKING



GLASS CORPORATION

Lancaster, Ohio

What's New?



↑
New, foil-wrapped "Woodbury" beauty and deodorant soap of Andrew Jergens Co., Cincinnati, is now being test marketed. Soap comes in bath and hand sizes and contains as the germicidal ingredient, "Bithionol", made by Monsanto Chemical Co. Light green in color, new "Woodbury" is wrapped in gold foil, which is printed in white, red and black. Two bath size cakes retail for 27 cents.



←
Recently introduced "Sootspray" of Stewart-Hall Chemical Corp., Mount Vernon, N. Y., for soot removal in oil furnaces, heaters and other fuel burning equipment, is packed in 12-ounce Crown "Spratainer". Valve is by Precision Valve Corp. Unit retails for approximately \$2.95 in most hardware and department stores.

→
New product in a new package is Colgate "Low Foam" Detergent for tumbler or agitator-type washing machines. The new product comes in sturdy 25-pound paper board carton with self-contained carrying handle. A product of the industrial department of Colgate-Palmolive Co., New York, "Low Foam" is designed especially for sale by appliance dealers. Product, which contains optical bleach, is available in sprayed and condensed forms.



→
 Lanolin-based waterless hand cleaner of Underwood Corp., New York, is now available in "Bracor" plastic tubes of Bradley Container Corp., Maynard, Mass. Tubes for Underwood's "Waterless Cleanser" measure 1½ inches in diameter by 6½ inches in length. They are printed in blue and red design on the white polyethylene base. Tubes may be stored in desk drawers without denting, leaking or possible breakage.



←
 Antibiotic wound dressing in aerosol dispensed form can cover affected area with transparent non-flammable film. Non-sensitizing and non-allergenic, "Spray-Band", marketed by Schueler & Co., New York, assists coagulation and stimulates granulation. Product also contains "Tyrothricin", an antibiotic. "Spray-Ban", which is packed in Crown container, may be used for burns, cuts, minor abrasions, lacerations, blisters, athlete's foot, ring worm minor skin irritations.

→
 Reformulated "Zest", a toilet bar form synthetic detergent of Procter & Gamble Co., Cincinnati, is now undergoing extensive test marketing. New bath size "Zest", which also contains germicidal deodorant, retails at two for 39 cents. Bar is aqua in color. There is a matching hand size bar.



←
 Now available in giant size 16-ounce containers, as well as 12 and six ounce sizes is "Acrolite Crystal Cleaner Spray" and "Acrolite Matte Fixative Spray" for artists, it was announced recently by Acrolite Products, Inc., West Orange, N. J. All 21 Acrolite aerosol products now come with new type valve which is said to be clog-proof. "Acrolite" is available in 18 countries.





A first in the shave cream field . . . "Braccon" polyethylene tubes with a special interior coating, have been selected by E. R. Squibb & Sons, Brooklyn, for its brushless shaving cream. Giant size, 5 1/4 ounce tube is attractively printed in brown and red on white polyethylene and is topped with a red urea, "fez" shape

cap. Even when nearly empty tube retains its product identity and is not subject to cracking. Contents of tube can be squeezed into user's hand without overflow. Tube retains its shape from full to empty. Caps and tube are manufactured by Bradley Container Corp., Maynard, Mass.

New aerosol spray for drying out and deodorizing bedding and upholstered furniture was announced recently under the trade name, "Mattress Fresh", by Cardinal Products, Glen Brook, Conn. Product leaves no odor of its own, but acts on a germicidal principle. Six ounce unit retails for \$1.25.



Armour and Co., Chicago, gives its new carton for "Formula No. 99" hand soap, containing hexachlorophene, a big hand. The cleaner for industrial soil removal from the skin, is available with either borax or vegetable heavy duty scrubber. Borax type package is printed in black and coral, while vegetable type soap is packed in black and green carton. Both contain five pounds of product. "Formula No. 99" is available in cases of 10, five-pound cartons and 175 pound drums.



Sparks Sales . . . Lowers Cost

BRACON polyethylene tubes, bottles and cans are a merchandiser's dream! Consumers are readily attracted by sight and touch . . . enjoy their functional simplicity. Manufacturers find BRACON packaging economical . . . easy to handle and transport . . . marvel at superb printing that provides permanent product identity.

BRACON packaging is convenient . . . a gentle squeeze dispenses your product—liquid, cream or powder—just where it's wanted. Practical, too, because these flexible plastic containers will not dent, crack or break.

These fabricated tubes and bottles are a European development . . . perfected for mass production by Bradley Container. An entirely new container, the metal-ended, plastic-bodied can (2ME*), is already the preferred package for insecticides, liquid detergents . . . many other products. Here is the lowest cost squeeze-to-use package for 6 fluid ounces or more.

BRACON containers are ideal for foods, pharmaceuticals, cosmetics, household, automotive and chemical specialties. Write for details.

*U. S. Reg. T. M.



BRADLEY CONTAINER CORPORATION

Maynard, Mass.—New York, Chicago, Los Angeles, Toronto

Tube Manifold Names Burke

Appointment of Richard F. Burke as sales manager of Tube Manifold Corp., North Tonawanda,



Richard F. Burke

N. Y., was announced recently. Tube Manifold's products include industrial size disposable containers for aerosol products.

Inland Appoints Nelson

Inland Steel Container Co., a division of Inland Steel Co., Chicago, recently announced the appointment of Richard J. Nelson to the newly-created position of assistant to the vice-president of operations. In his new post, Mr. Nelson will be responsible for the company's central purchases, industrial and trade relations and for special assignments. Mr. Nelson was formerly assistant manager of industrial relations for Inland Steel Co. He previously had been

Richard J. Nelson



an administrative aid to Adlai E. Stevenson when the latter was governor of Illinois.

At the same time, Inland announced the appointment of Leonard M. Ansley as plant manager of the firm's Cleveland unit. Mr. Ansley was formerly director of purchases.

—★—

O-I Improves Bottle Caps

Price spot marks, designed to speed up shelf stocking in retail stores, will be put on molded plastic bottle tops of Owens-Illinois Glass Co., Toledo, according to J. A. Rudy, sales manager of the closure and plastics division. To provide the marking space, a raised section, the same size as the price spot, is formed on top of the closure. The new marking section also features debossed lettering, which is said to be easy-to-read and still leave ample room for price marking. Further information can be obtained from the closure sales division, Owens-Illinois Glass Co., Toledo 1.

—★—

New Canco Line Exhibited

A full line of detergent and oblong style cans, a new pressure can, and an improved non-drip container were exhibited by American Can Co., New York, at the 43rd annual meeting of the Chemical Specialties Manufacturers Association held at the Mayflower Hotel, Washington, D. C., Dec. 3-5.

Canco's display of detergent

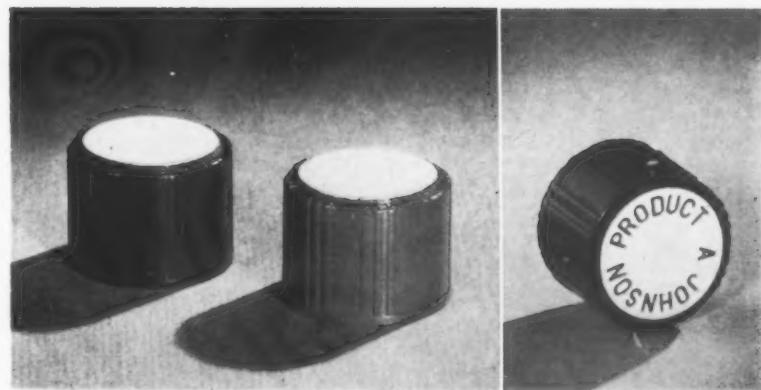


Photo at left shows two molded plastic caps of private mold design with raised spot marks. Cap at right is molded closure with raised marking spot to which lettering has been added. Use of lettering allows ample room for price marking. Caps are new development of closure division of Owens-Illinois Glass Co., Toledo.

style containers included cans of 12, 16, 22 and 32 ounces. All models can be fitted with standard size plastic nozzles and plastic screw caps. In addition, the pint and quart models can be furnished with a one-half inch plastic nozzle.

The oblong, or I-style can, features a clinched nozzle that is said to prevent corrosion, a non-drip spout, and a cemented side-seam, which permits all-around lithography. The interior of the can is enamel.

The new pressure can, called "Queen Size," is a 202 x 509, eight-ounce container, designed to complement the firm's 16-ounce "King Size" model. This new container can be furnished with either a one-inch cup opening top or the standard one-piece top.

Rounding out the display was an exhibit of another new con-

tainer, called "Accu-Por." This non-drip can comes in sizes of 16 and 32 ounces.

Carl E. Eggerss Retires

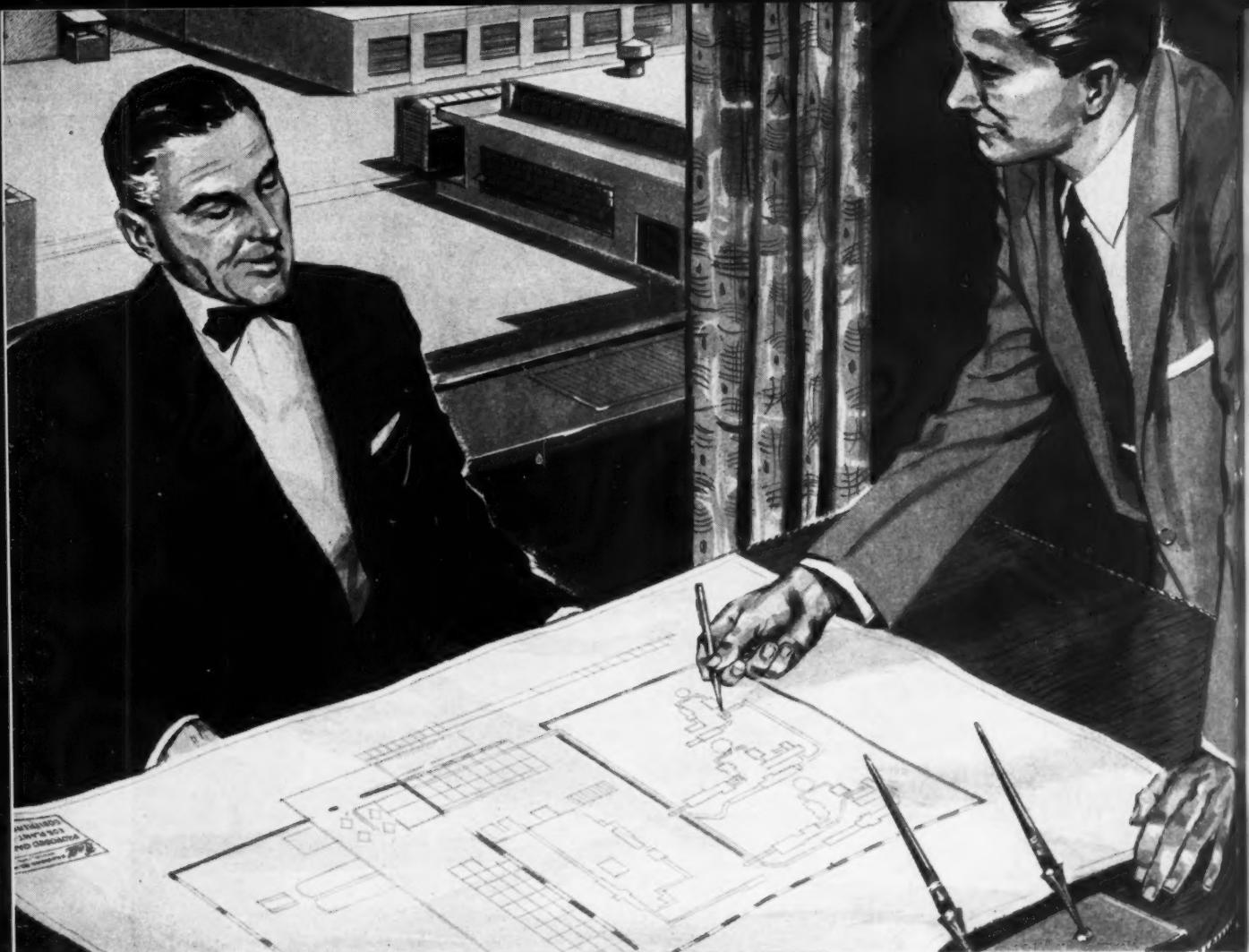
Carl E. Eggerss, vice-president of the fibre drum division of Continental Can Co., New York, retired Dec. 31, after more than 45 years in the paper container industry. Mr. Eggerss is succeeded by Peter P. Wojtul, formerly vice-president in charge of sales.

Mr. Eggerss began his career as an apprentice with A. George Schulz Co., Milwaukee, in 1910. He became sales manager of The Container Co., Van Wert, O., in 1931, and joined Continental nine years later, following its purchase of the Ohio firm. Mr. Eggerss was named general manager of the fibre drum division in July, 1950, and later that year was elected vice-president.

Carl E. Eggerss



American Can's new "Accu-Por" container for liquid products. It has one-piece formed top and incorporates a non-drip nozzle to cut off flow of liquid after pouring. Can be provided with metal screw cap, as shown, or with aluminum cap which can be formed over nozzle.



How *Ball Brothers* helped a customer increase capacity, cut costs!

To keep pace with growing sales, a leading household chemicals manufacturer needed extra production. Major expenditures for space and equipment seemed inevitable . . . but Ball Brothers engineers found a more economical way.

Ball Materials Handling Engineers eliminated internal traffic jams and developed plans for speeding up the handling of glass containers. Ball Technical Service Engineers rearranged filling

lines to operate faster and with fewer men. All this was accomplished with minor outlay . . . another example of Ball personalized counsel in action.

Your Ball representative can call on our staff of industrial designers and technicians to aid you on any glass packaging problem—without obligation. These Ball specialists will provide sound, practical recommendations that are tailor-made for your operations.

Quality Glass Containers and Metal Closures in stock sizes and special designs
• "PACKAGING-PLUS" Counsel on your problems • *Ball Brothers Company*,
Plants at: Muncie, Indiana; Okmulgee, Oklahoma; El Monte, California

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AND GET MORE THAN GLASS!

NEW

Trade Marks

THE following trade marks were published in recent issues of the *Official Gazette* of the U. S. Patent Office in compliance with section 12 (a) of the Trade Mark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gazette. See rules 20.1 to 20.5. As provided by section 31 of the Act, a fee of \$25 must accompany notice of opposition.

Cura-Tabs—This for sanitizing and disinfecting tablets. Filed April 5, 1956 by Soap Specialties, Inc., Philadelphia. Claims use since Dec. 1, 1955.

Clearzit—This for window and glass cleaner. Filed Feb. 3, 1956 by North American Industries, Inc., New York. Claims use since Oct. 1, 1955.

Spomac—This for chrome cleaner, principally for rust removal from chrome on automobiles. Filed April 30, 1956 by S & M Distributors, Inc., Madison, N. Y. Claim use since March 7, 1956.

Speedy White—This for white wall tire cleaner. Filed May 2, 1956 by Modern Chemical Specialties Corp., Rochester, N. Y. Claims use since Dec. 10, 1952.

Brite-Wool—This for cold water soap for washing woolens, nylon, etc. Filed May 15, 1956 by Britex Corp., Boston, Mass. Claims use since April 13, 1956. Subject to interference with SN 8,314.

Formula X-10—This for automobile polish. Filed Dec. 2, 1955 by Bev-Rich Products, Inc., Philadelphia. Claims use since Oct. 1947.

Lustre-Duster and Re-Lac—Both for chemically impregnated dusting and polishing cloths. Filed April 25, 1956 by Cadie Chemical Products, Inc., New York. Claims use since Jan. 25, 1956.

Betco-Brite—This for floor wax. Filed April 27, 1956 by Betco Corp., Toledo, O. Claims use since April 10, 1956.

Sunny Sol—This for sodium hypochlorite and liquid chlorine for industrial use and household bleach. Filed June 27, 1952 by John Wiley Jones Co., Caledonia, N. Y. Claims use since April 6, 1932.

Shirlan—This for chemical compounds having bacteriostatic and/or fungicidal properties. Filed Oct. 5, 1955 by E. I. du Pont de Nemours & Co., Wilmington, Del. Claims use since May 12, 1955.

Zonium—This for chemical compounds or compositions for protecting materials from tarnishing and corrosion. Filed Oct. 5, 1955 by E. I. du Pont de Nemours & Co., Wilmington, Del. Claims use since July 12, 1955.

AM-Co—This for rodenticides. Filed Jan. 19, 1956 by Benjamin D. Smith, doing business as American Manufacturing Co., Whitesboro, N. Y. Claims use since on or before March 30, 1955.

Nibonex—This for rabbit repellent. Filed Jan. 13, 1956 by Hydroponic Chemical Co., Copley, O. Claims use since Dec. 2, 1955.

SK Surekill Brand—This for insecticide sprays in liquid and dry granular form. Filed March 14, 1955 by Mutual Products Co., Minneapolis. Claims use since March 2, 1955.

Germatize—This for sanitizing and antistatic compound for use on textiles. Filed Aug. 29, 1955 by Guy Rampel, doing business as R. K. Laboratories, Harrison, N. Y. Claims use since Aug. 11, 1955.

Squire Junior—This for germicidal preparation for use on baby diapers to prevent odor and diaper rash. Filed Sept. 20, 1955 by Curtis-Squire, Inc., Minneapolis. Claims use since Jan. 1, 1949.

Katapone—This for quaternary ammonium chloride for inhibiting metal corrosion. Filed Jan. 30, 1956 by General Aniline & Film Corp., New York. Claims use since June 6, 1955.

Bonnie—This for bleach, ammonia, plastic starch, disinfectant. Filed April 19, 1956 by Proxite Products, Inc., Brooklyn, N. Y. Claims use since April 15, 1954 on the disinfectant.

Wonce-Oba—This for soap loaded pads for dishwashing, bathing, etc. Filed June 29, 1955 by Wonce-Oba Co., New York. Claims use since May 17, 1955.

Lanitol—This for anionic alkyl aryl sulfonates useful as detergents. Filed Nov. 29, 1955 by Arkansas Co., Newark, N. J. Claims use since Jan. 1938.

Arko—This for detergents. Filed Nov. 29, 1955 by Arkansas Co., Newark, N. J. Claims use since 1922.

Eversharp Schick—This for shampoo. Filed May 15, 1956 by Eversharp, Inc., Chicago, Ill. Claims use since Jan. 24, 1956.

Dragon—This for metal polish. Filed May 11, 1956 by Burnishine Products Co., doing business as J. C. Paul & Co., Skokie, Ill. Claims use since Nov. 1, 1911.

C≡C—This for insecticides, fumigants, etc. Filed Aug. 3, 1954 by Acetylene Chemicals Co., New York. Claims use since June 30, 1954.

Slug a Bug—This for insecticides. Filed Oct. 25, 1954 by Bridgeport Brass Co., Bridgeport, Conn. Claims use since July 27, 1954.

Vespray—This for sanitizer and deodorizer. Filed Sept. 27, 1955 by Vestal Laboratories, Inc., St. Louis, Mo. Claims use since May 31, 1955.

Nott's—This for insecticides, herbicides, animal repellents, and rodenticides. Filed Dec. 23, 1955 by Nott Manufacturing Co., Mount Vernon, N. Y.

AWINC—This for insecticides. Filed Feb. 27, 1956 by Andrew Wilson, Inc., Springfield, N. J. Claims use since May 18, 1956.

Happy—This for preparation for retarding the soiling of rugs, upholstery, paint, etc. Filed April 30, 1956 by Happy Products Co., Kansas City, Mo. Claims use since March 21, 1956.

H. D. C.—This for cleaning, cleansing and detergent materials for washing, cooking and food handling equipment. Filed Nov. 10, 1955 by Wyandotte Chemicals Corp., Wyandotte, Mich. Claims use since Jan. 1931.

Penray—This for automobile wax, cleaner, and polish; chrome cleaner, and paint rubbing compound. Filed April 18, 1956 by Penray Co., Chicago. Claims use since March 3, 1953.

Autosol—This for cleaning and polishing preparation. Filed May 21, 1956 by Solvolene Lubricants, Ltd., London, England. Owns British mark dated Sept. 24, 1954.

Ball O'Perfume—This for deodorant and moth crystals. Filed Nov. 17, 1955 by Esquire Chemical Co., Downers Grove, Ill. Claims use since Sept. 19, 1955.

Why Bugs Leave Home—This for insecticides. Filed Feb. 27, 1956 by Andrew Wilson, Inc., Springfield, N. J. Claims use since April, 1952.

Con-Sal—This for sal soda, washing soda, etc. Filed March 26, 1956 by Church & Dwight Co., Syracuse, N. Y. Claims use since Jan. 13, 1956.

I-O-DO-FOR—This for sanitizing agent for milk and other food utensils and equipment. Filed April 26, 1956 by Milk Plant Specialties Corp., Rochester, N. Y. Claims use since March 2, 1956.

Vanox—This for anti-tarnish agent for use in synthetic dishwashing detergents. Filed April 27, 1956 by R. T. Vanderbilt Co., New York. Claims use since April 3, 1956.

Diamid—This for dissolving agent for milkstone in dairy processing equipment. Filed May 2, 1956 by Diamond Alkali Co., Cleveland. Claims use since March 9, 1956.

Sweeping Beauty—This for floor sweeping compound. Filed March 14, 1955 by J. W. Kelso, Jr., doing business as Peerless Manufacturing Co., Des Moines, Ia. Claims use since March 2, 1955.

Spun Gold—This for cleaning and polishing mitts, etc. Filed Jan. 9, 1956 by S. M. Arnold, Inc., St. Louis, Mo. Claims use since on or before April 9, 1954.

Eastman—This for polyethylene waxes and waxes made from polyethylene. Filed July 18, 1955 by Eastman Kodak Co., Rochester, N. Y. Claims use since May 19, 1955.

Chlor-O-Gas—This for insecticides and mothicides, namely crystals consisting of paradichlorobenzene. Filed Oct. 24, 1955 by Halben Chemical Co., New York. Claims use since Jan. 1955.

Microjet—This for household germicide and disinfectant. Filed Oct. 27, 1955 by Nu-Vita Products Co., Pittsburgh, Pa. Claims use since Dec. 1952.

Lion—This for antifreeze. Filed March 15, 1956 by Monsanto Chemical Co., St. Louis, Mo. Claims use since Oct. 1, 1945.

Atlas—This for solvent for removing tar from automobile bodies and upholstery. Filed April 19, 1956 by Atlas Supply Co., Newark, N. J. Claims use since April 10, 1956.

Devonglo—This for shampoo. Filed May 23, 1956 by Devon, Inc., Buffalo, N. Y. Claims use since Nov. 28, 1955.

Microscopic examination for
structure of plastic components after
exposure to aerosol formulation



IMITATED... BUT NEVER DUPLICATED—

THE *Precision Valve*

From planning to commercial production, a new aerosol product requires infinite knowledge, effort and research. Almost every phase of human endeavor contributes its share to the completed product.

The final use, however, is dependent upon the proper valve, which is carefully designed, engineered, and manufactured to produce the proper dispersion of spray, mist or foam.

We at Precision are ready to help you, whether it be formula, package design, or production. Our facilities can be our contribution to the success of your business.

Whether it be a million and ten or just ten... Precision has or will develop the aerosol valve for your product. Our large quality control department assures you of the finest results along with the economy required for profitable sales.



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700 NEPPERHAN AVENUE • YONKERS 3 NEW YORK

Known throughout the World

PRESSURE PACKAGING

SLACK fill has been discussed many times in this column recently, and you'll probably recall that last month we cited CSMA's findings as the result of a survey of a number of different products picked up at random on the open market. Within each size of container studied, the volume of fill varied pretty widely by different brands.

We thought of that discussion again when we heard recently that a new "large size" six-ounce metal container for aerosol hair spray was being introduced. The can, we understand, is the same diameter as the standard six-ounce can, but about a half inch taller, and, being naturally inquisitive, we immediately sought in our own mind a reason for the change.

Technically, there seems to be no valid reason for increasing the size of the can. From a sales promotion standpoint, however, we realize a bigger container suggests the appeal of a "giant economy size" package to the consumer, who's holding his pennies a little tight now and insisting more and more on value.

If the larger can contains proportionately more active ingredient than the standard six-ounce can, it's good for the consumer. But simple over-sizing of the container to create a "bonus" in the consumer mind, without actually delivering that bonus, is a dangerous thing.

Don't get the impression that we are indicting the marketer who chooses a slightly larger container to win customers at the retail shelf level. Economy size packages have proved their worth. Our point is that any increase in the size of the package should be accompanied by an increase in fill—unless there's a valid technical rea-

son for needing a larger container to dispense adequately the same volume of active ingredient formerly packed in a smaller container.

Don't forget the pending FTC complaint against some marketers of aerosol soaps, in which it has been charged that 16-ounce containers of the defendants' product contained no greater effective fill than competitive 12-ounce containers. If the consumer can't see the actual contents you must assume he figures he's getting more for his money in a 16-ounce can than he will in a 12-ounce can of the same product—and if he doesn't, you're misleading him . . . an unfair trade practice.

The question of slack fill is not one to be taken lightly. CSMA

Claimed to be the first and only surgical soap that is sterile in actual use, "Sterifome", a product of DeMert & Dougherty, Inc., Chicago, is aerosol packaged, and thus is difficult to contaminate. "Sterifome" contains two per cent of hexachlorophene by weight. Because the foam cannot run off the skin, it is advantageous for pre-operative shaving and cleansing of bed patients.



members are conscious of the dangers and we want to point out that the marketer to whom we refer in connection with the over-size six-ounce hair spray container is not, we understand, a member of CSMA.

It's important that everyone in the aerosol business, whether a member of CSMA or not, police themselves on questions such as slack fill or misleading consumer promotion. If they don't and the situation starts to get out of hand you can be sure FTC will step in and do the policing job. It's much easier for all concerned to obey the law scrupulously rather than deviate in hope of not being caught. A firm might get away with it for a while, but eventually it is caught up with. Let's be sure the aerosol business does not create the need for FTC Trade Practice Rules.

* * *

CSMA's fifth annual aerosol packaging contest is history now and the aerosol exhibit at the Washington meeting of the association drew its usual interested inspection and comments. Some of the companies again submitted full cans of their product, rather than empty but fully labeled samples as requested. And the natural curiosity of visitors at the display resulted in various aromas being tested. Some of the deodorants and colognes were heady enough to drive even the guard outside for a breath of unadulterated air.

Some people have questioned whether the aerosol packaging contest has not run its course after five years. Many of the biggest marketers of aerosol products didn't bother to enter packages in the 1956 contest, they point out, so that the entries actually represented only a sampling of the many brands of pressurized products now on the market.

Judging, simply because it's limited to package sales appeal and does not take into consideration the effectiveness of the product or operability of the dispenser, gets tougher each year . . . makes many wonder just how meaningful the awards are after all.



Our Plant . . . Your Warehouse

Besides ample facilities for handling your bulk ingredients, we have extensive warehousing space for the storage of your products after packaging. When it's time to ship, our personnel and equipment are geared to move large or small orders in a hurry . . . and we're glad to handle drop shipping. We

have direct railroad sidings and trucking service at our door. As a result, our plant can serve as *your warehouse* . . . a central distributing point . . . saving time and cutting costs. For details about our complete services in contract filling (liquid, pressurized or aerosol) write, 'phone or wire . . .

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Filling and Packaging Co.
HEGELER LANE • DANVILLE, ILLINOIS

SOAP and CHEMICAL SPECIALTIES

Contests like this, they add, mean a lot when the product is new. The critics don't question the value of the competition and displays set up so far in creating awareness of the aerosol dispenser as a new type of package. But they do wonder if the contest idea should not be reassessed carefully now that the aerosol business is "off the ground."

We can't agree entirely with their viewpoint, although we think we can appreciate some of the reasons behind their feeling. The bigger the marketer, the less importance he probably places on packaging contests for he has the funds not only to assure that his package is potentially the most eye-appealing on the market but also to promote his package through advertising and publicity to the point where it's known to a sizeable share of the market.

But to the smaller marketer, whose funds for promotion are limited, the contest is a mighty good way to achieve some recognition he might not otherwise get. And while larger companies might look down their noses at such awards, they're of major importance to the smaller marketer.

Too often, larger companies forget that most business giants of today — probably including themselves — started out small. Age and success dull the memory of harder times. If they could retreat for a moment in history and recall the day when they were of the same size as today's contest winner, we'll bet

they'd look at the contest a little differently than they do today.

If nothing else, the aerosol packaging contest gives the little fellow as much of a chance for recognition momentarily as the bigger marketer.

If there is criticism of the method of judging, that is another thing and we are sure that CSMA's contest committee has an open ear to any suggestions that will improve the meaning or the stature of the annual packaging contest.

Meantime, we think the packaging contest, despite any shortcomings it might have, is serving a worthwhile purpose for the aerosol business in general and for the smaller marketer in particular.

* * *

MEMBERS of Fred Lodes' Aerosol Division Publicity Committee are still hard at work on the proposed aerosol publicity program, hoping to drum up sufficient firm financial interest to get the program underway early in 1957. With a goal of \$50-60,000 per year on an initial two-year basis, the committee had obtained actual cash deposits of about \$4000 at the time of the Washington meeting. The committee is aggressively seeking its goal by a personal solicitation following up a mail plea.

Some of the bigger suppliers, we understand, are "biding their time," preferring to wait and see if enough members of the aerosol business come through with money before they pledge their share of the funds. One comment from the

larger companies — who take a longer look at public relations and publicity as a result of their own everyday promotion experiences — is to the effect that the proposed program should be spelled out in more detail. They don't want to "buy a pig in a poke." And many of them feel, too, that no such program should be undertaken unless it's financially supported by well over half of those companies who stand to benefit from it.

While contributions, and even comments, were slow in coming in at first, Mr. Lodes reports that favorable replies began rolling in by mid-December, with many potential contributors indicating support and promising to back up their support with money once their 1957 funds became available.

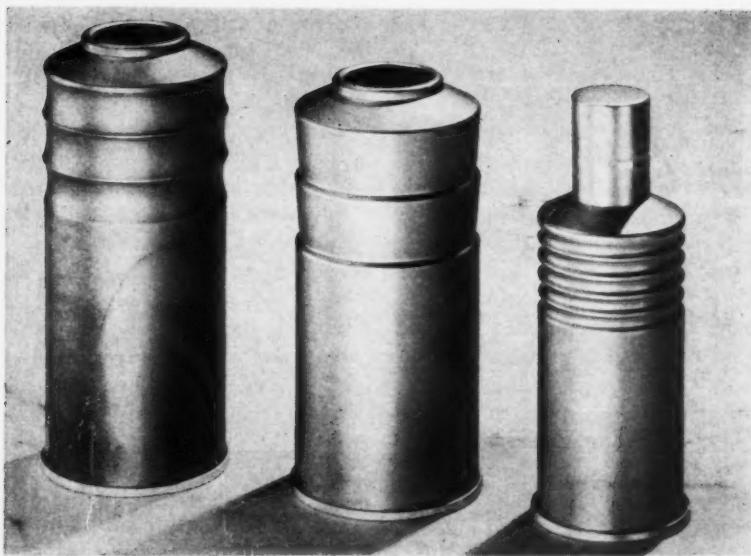
Public relations and publicity programs aren't the easiest things to sell . . . due in large measure, we think, to the fact you can't always trace tangible returns from money invested. Even tougher to reconcile is the practical impossibility of being sure in advance of a program that it will produce desired results.

Plenty of publicity and promotion programs with essentially the same goals as the proposed aerosol plan have worked well for other industries and business groups. But you're never sure until you actually try it.

Despite a lackadaisical publicity attitude by many marketers, aerosol products today are getting quite a bit of publicity in the popular and trade press. An overall publicity program at the industry level would do no harm, probably would do a lot of good. But, it couldn't be expected to do the selling job alone. To capitalize on any consumer demand for aerosol product types built up by the proposed program, individual marketers would still have to publicize their own brands aggressively. From discussions we've heard, we wonder if some of the marketers realize that . . . or whether they think that by contributing to the proposed association program they can reap sales



New extruded aluminum aerosol container of Peerless Tube Co., Bloomfield, N. J., is a one piece unit with no bottom seam. Comes in sizes down to one inch in height; may be decorated in up to four colors on base coat and may be buffed and either anodized or coated.



New aluminum "Varipak" containers for aerosol dispensed products were announced recently by Bridgeport Brass Co., Bridgeport, Conn. Containers range in size from two ounces to 16 ounces, incorporating one inch and bottle type closures. They come in bright colors. Small 3½ ounce can weighs one-fifth as much as comparable glass container.

benefits without expending money on their own publicity program. We hope they're not so naive . . . for those who might be in that bracket, we suggest that to benefit from the overall product type promotion on an industry level, they should allocate for their own brand promotion at least \$5-10 for every dollar invested in the association program.

* * *

CSMA's Aerosol Division has lost, at least temporarily, one of its most likeable and hard-working committeemen — Henry G. Mackintosh. Mack surprised his many friends at last month's Washington meeting by announcing his new position: vice-president in charge of mid-west operations for Candle-Craft, Inc., one of the nation's largest manufacturers of candles and related items. He had been assistant sales manager for specialty products at Standard Oil of Indiana, which decided only recently to step out of the retail sales of product lines which had been under Mack's wing.

Mr. Mackintosh served during 1956 as a member of the administrative committee of the Aerosol Division and prior to that was vice-chairman of the administrative,

membership and on other committees, including the aerosol program, aerosol commercial standards, and general association program groups.

In his new position, he will not only supervise all sales operations of Candle-Craft in the Midwest but is also slated to assume manufacturing direction of a proposed new plant in the Chicago area.

Our own best wishes—and we're sure those of CSMA—go to Mack in his new assignment, with the hope that, chemical specialties broadening and growing as they are, he'll be back in our working circle again one of these days.

* * *

ONE of the hardest working committees of CSMA's Aerosol Division is its aerosol scientific committee. In 1956, under the direction of William E. Baulieu of Bridgeport Brass Co., the aerosol scientific committee turned in one of the most outstanding reports of down-to-fundamentals service of any group in CSMA. Often unheralded because its work is of such a highly technical nature, with involved projects that consume months and months of work, the committee enjoyed one of its most successful years under Mr. Baulieu.

His quiet, unassuming way, coupled with a keen, discerning technical mind, has won him high respect in the aerosol division.

With the thought that many of you might not be too familiar with the service performed by the scientific committee, we'd like to list its objectives, as pointed up so succinctly in Baulieu's annual report:

1. To advise the Aerosol Division and the association on scientific matters concerning pressurized products.
2. To work out standard methods to be used in the evaluation of aerosol products.
3. To disseminate to the membership any information of a scientific nature that pertains to pressurized products.
4. To initiate and undertake work of a scientific nature that this committee believes to be of benefit to the aerosol industry.

Mr. Baulieu's report of the committee's work during the last year ran to 14 typed pages, which gives some idea of the amount of ground covered by his group of 43 people and an additional 12 on its sub-committee. Here are just a few of the 1956 accomplishments:

Development of simple method for determination of solid contents of aerosol coatings.

Partial completion of method for determination of spray pattern.

Completion of method for determining pressure in space insecticides and room deodorants.

Development of tentative method for determining ratio of volatile and non-volatile ingredients in pressurized products by densimetric tests.

Completion of method for determination of volatile and non-volatile ratio of aerosol products, by the vacuum distillation procedure.

Completion of a method for determining seepage rate for aerosol insecticides and room deodorants.

Partial completion of "paper bag" method for determination of volatile and non-volatile ratios of constituents in insecticides and room deodorants.

Completion of tentative proposed method for storage test and tentative proposed aerosol delivery rate test method.

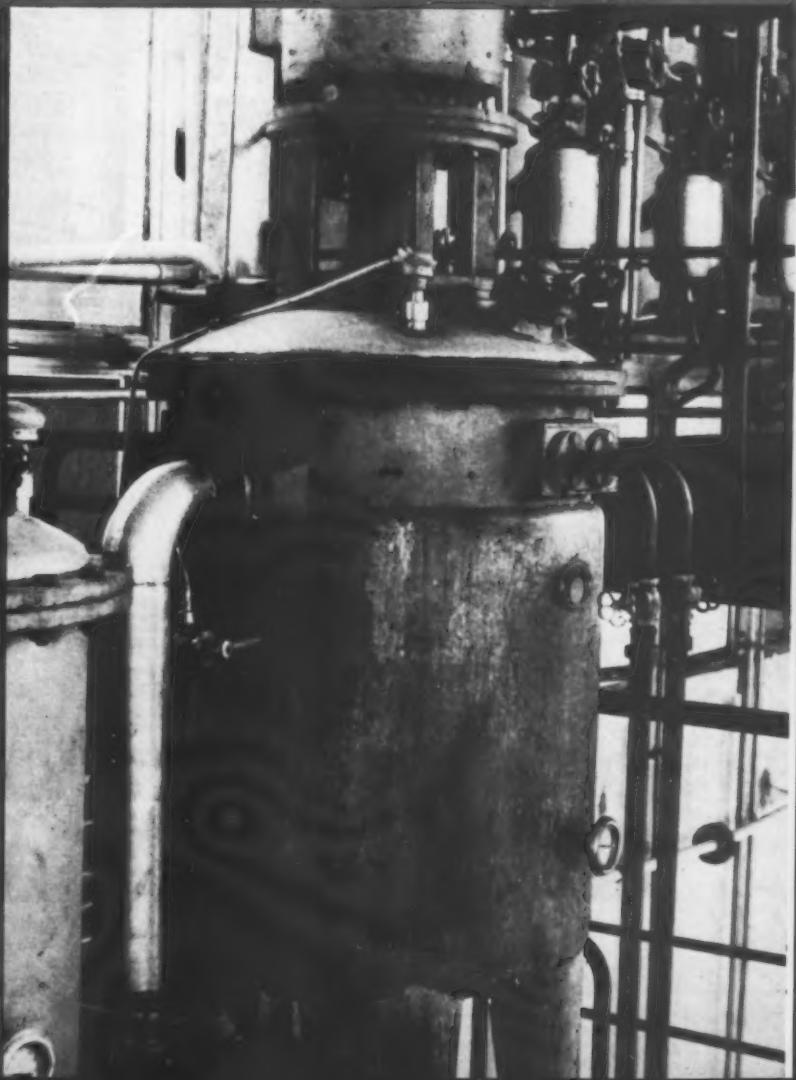
Development of densimetric methods for determining specific gravity of aerosol formulations. These methods make it possible to determine percentage of fill within a container.

Development of information resulting in pamphlet entitled "Agencies and Regulations of Interest to the Pressure Packaging Industry."

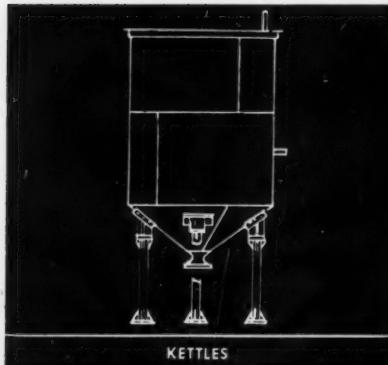
Cooperation with Bureau of Explosives of the American Association of Railroads in simplifying shipping regulations.

(Turn to Page 168)

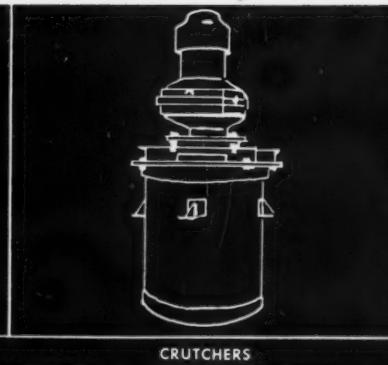
Production...



Heart of the new five step continuous sulfonating plant of Meccaniche Moderne, Busto Arsizio, Italy, is this sulfonator. Further details appear beginning on Page 119.



KETTLES



CRUTCHERS



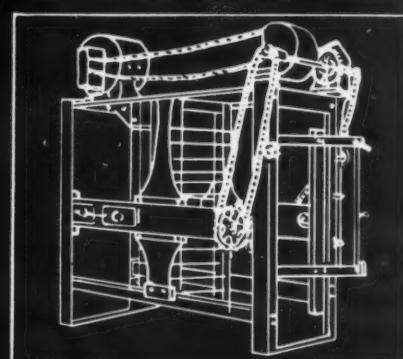
AMALGAMATORS

Making Good Soap BETTER, for over 115 Years

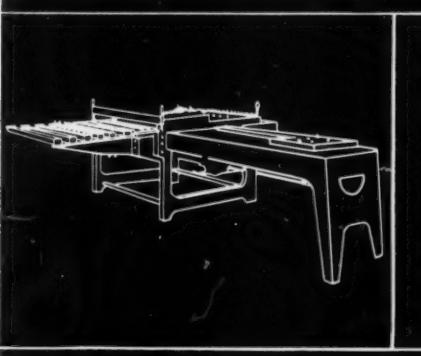
Houchin started producing soap making machines over 115 years ago.

Practically all basic soap making machinery today is derived from original Houchin inventions.

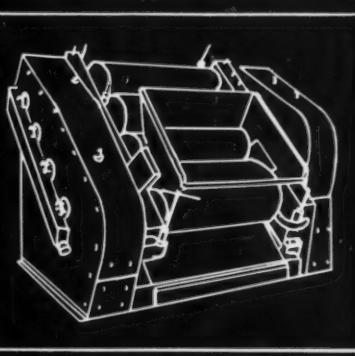
Look to Houchin for further revolutionary improvements.



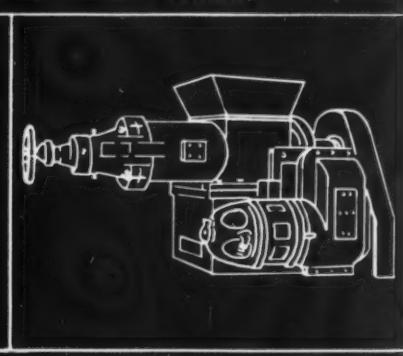
SLABBERS



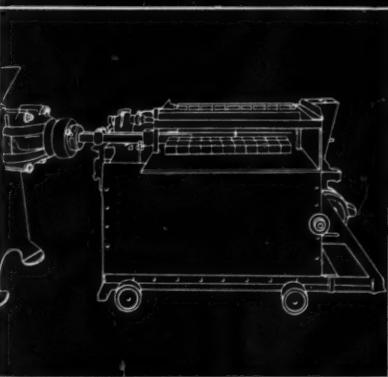
LAUNDRY SOAP CUTTERS



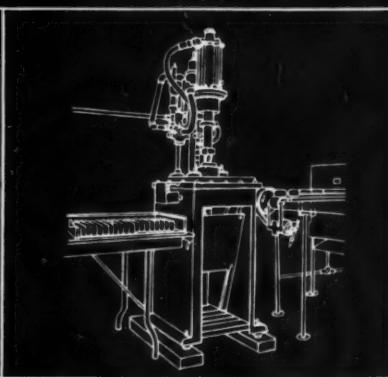
MILLS WITH GRANITE OR CHILLED
IRON ROLLS



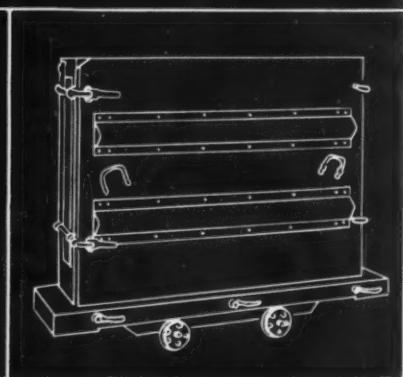
PLODDERS



TOILET SOAP CUTTERS



PRESSES—FOOT OR AIR OPERATED



SOAP FRAMES

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HAWTHORNE,
NEW JERSEY, U.S.A.

Production SECTION

Continuous Detergent Sulfonation

DETERGENTS of high uniformity and excellent color can be manufactured economically by treating alkanes in a continuous sulfonating plant of the type designed and built by Meccaniche Moderne in Busto Arsizio, Italy.* The "Sulfan" process is said to overcome two of the main problems encountered in batch sulfonation: localized overheating of the reaction mass and consequent charring of the final detergent product are eliminated and refrigeration equipment is dispensed with; violent changes in viscosity and pH are eliminated in all stages of the process and selection of agitation equipment and construction material greatly facilitated. These advantages are achieved by employment of a principle by which small quantities of the reactant materials are reacted, diluted, or dispersed before they become part of the bulk reactant mass. This principle serves as a cushion against violent changes of temperature, viscosity and pH.

In the continuous system sulfonation itself is performed in

Extremely white, uniform detergent base can be manufactured economically by new five step, continuous sulfonating plant

two steps; the other three steps are dilution, separation, and neutralization.

Oleum and alkane are injected into the first reaction vessel through two separate flow control systems. While the plant is in normal operation this first reactor contains a homogeneous mixture of 95 percent sulfonated material in heavy agitation.

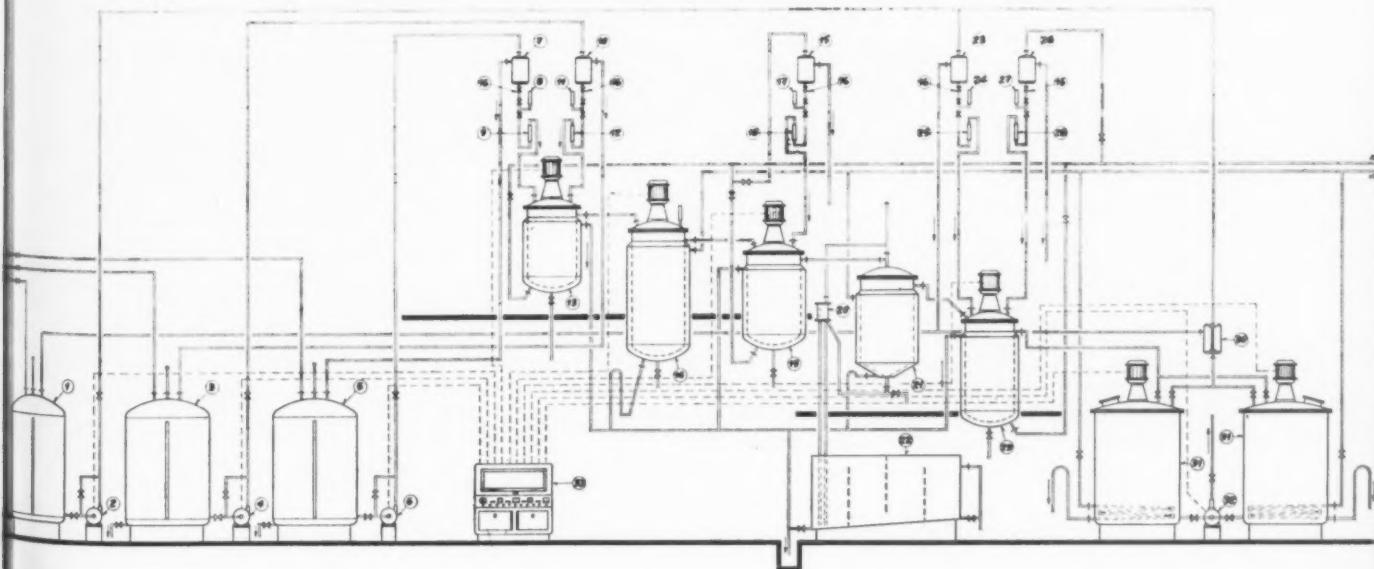
The reactor is equipped with a system of coils and agitators arranged in such a manner that the sulfuric is diluted and the alkane finely dispersed before they become part of the reacting mass. This method ensures that the reaction and consequent rise in temperature is distributed through all the mass moving in the sulfonator, and can be absorbed by all cooling surfaces. Excessive local concentration of the sulfonating agent and overheating are thus avoided. This in turn minimizes the risk of discoloration

and avoids the formation of disulfonated matter. Because the heat of reaction is easily absorbed, sulfonation can be safely carried out at elevated temperatures. Sulfonation of dodecylbenzene, for instance, at 50°C. (122°F.) with 20 percent oleum is free of bad side reactions.

The material in the first reaction vessel, sulfonated to 95 percent, overflows into the second reaction tank or homogenizer. Here the mass is subjected to more stirring and its passage through the vessel is regulated so as to ensure uniform reaction time for each part of the mixture. Temperatures in this final reactor exceed those in the first by five to 10 centigrades.

The reacted mass, consisting of sulfonated alkane and excess sulfuric acid, overflows from the second to the third vessel where dilution takes place. In the batch process dilution is a strongly exothermic reaction. Water of dilution is therefore frequently added in the form of ice to safeguard the

Diagrammatic representation of new five step sulfonating unit of Meccaniche Moderne, Busto Arsizio, Italy, shown below.



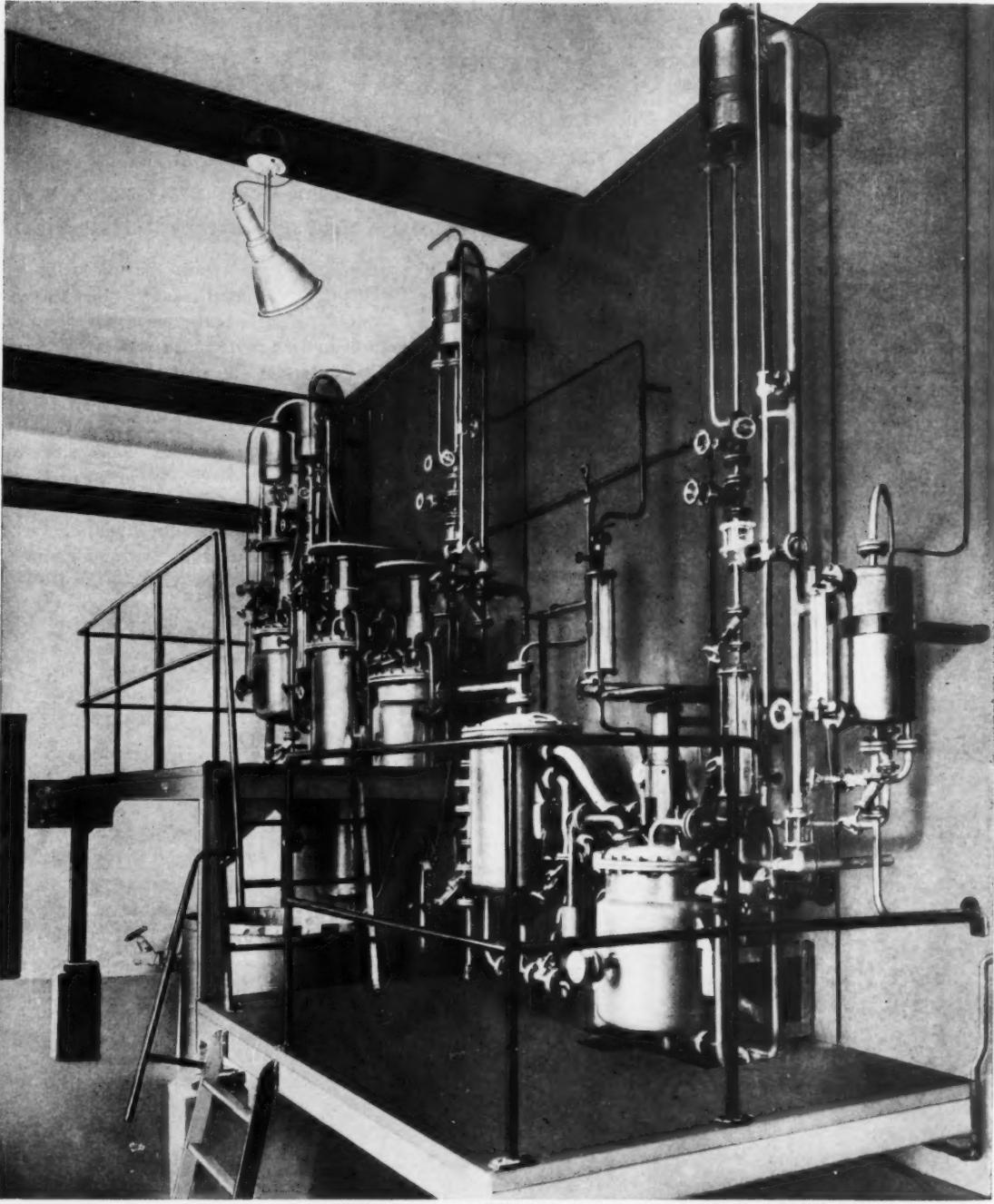
* Represented in the U. S. by American Associates, 507 Fifth Avenue, New York 17, N. Y.



MECCANICHE MODERNE

CORSO SEMPIONE, 51

BUSTO ARSIZIO (ITALY)



100 Kgs. per hour "SULFAN" plant in operation at Ets GEOSYL Saint-Denis (France)

"SULFAN" CONTINUOUS SULFONATION PLANT — "Ballestra" Patent

Basic operating principles

Pre-dilution of reacting matters into the reaction product and consequently:

- No more local overheating!
- No more di-sulfonated matter!
- No more product discoloration!
- No more temperature troubles as with batch plants!
- No more ice dilution of sulfonated matter: water is perfectly O.K.!

No more expensive refrigerating units!

Manufacturing characteristics

- Cooling by means of tap water (Max. temperature 20° C.)
- Constant pH values in each step: each vessel is manufactured in the more resistant material to suit the pH value and consequently no more corrosion.

- Perfect and simple proportioning of the reacting matters with no moving parts for doing it.

- Perfectly constant reaction times in each step and consequently perfectly homogeneous products.

- Totally automatic operation, controlled from one main board.
- Possibility of getting slurries with high active matter, very low mineral salts content and practically no unsulfonated matter.
- A very wide range of sulfonable matters can be employed as raw material.

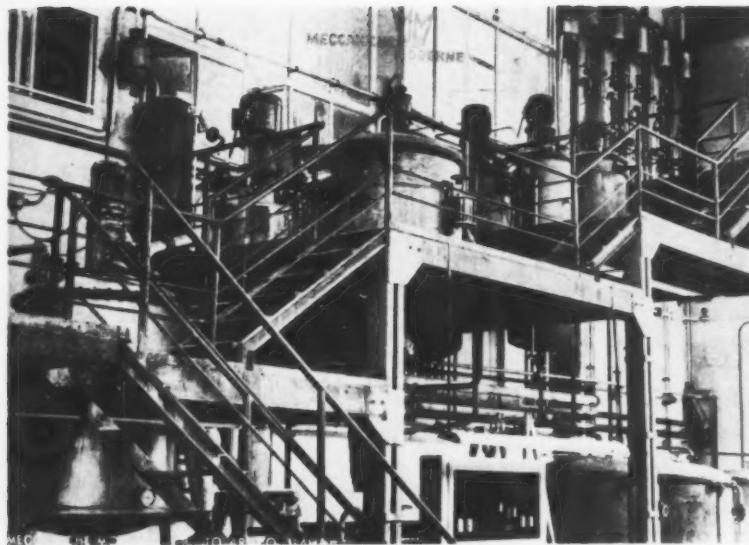
Economic advantages

Longer lasting plant: lower mortgage percentages.

- A sulfan plant requires about 1/5 of the space required by a batch plant of the same capacity: substantial money savings on space and building costs.
- Very low operating costs: one man is sufficient to inspect the running plant at regular intervals.

- Lower current consumption because no refrigerating unit is needed and less power is required due to the smaller dimensions of the vessels.
- A high degree of sulfonation prevents alkane waste in drying the slurry.

U. S. Sales Representatives:
American Associates, 507 Fifth Ave., N. Y. 17, N. Y.



Typical installation of new continuous sulfonating plant of Mecchaniche Moderne, Busto Arsizio, Italy. Compactness is feature.

properties of the final product. Corrosion problems may be raised by pronounced changes in viscosity and sulfuric acid concentration.

In the continuous process, difficulties inherent in dilution are minimized by means similar to those applied in the sulfonation step. The dilution vessel contains a mixture of sulfonic and sulfuric acid. In a defined zone at the top of the vessel, water is continuously injected at a rate designed to lower the strength of the sulfuric acid five to 10 percent below the desired concentration. At the bottom of the dilution tank, the overflow from the homogenizer enters at a rate to raise the acid concentration in this section of the vessel by five to 10 percent above the required percentage. By adding water and sulfuric acid in this dispersed form and by having a cooling system built into the vessel, dilution is accomplished with water of ambient temperature and in the absence of refrigeration equipment. A mixture having the required sulfuric concentration is obtained without significant variations in viscosity and acid concentration.

The diluted acid mixture is then fed to the continuous layer separator, where the lighter phase sulfonated product will rise to the top while the spent acid is decanted

towards the bottom. Because separation time is directly proportional to the height of the mixture, the separation zone has been reduced to a few millimeters. Separation, therefore, is almost instantaneous. This method, employing natural decantation, may be replaced by the use of a corrosion resistant centrifuge, if desired.

After separation, the decanted sulfonic acid is neutralized. This operation is again performed

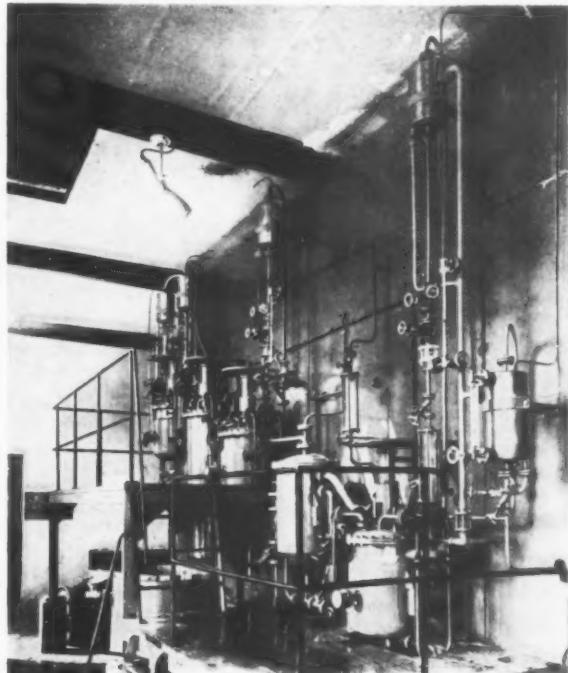
in two steps. By incomplete neutralization of proportioned amounts of sulfonic acid and caustic solution, an acidic base is formed. This is subsequently dispersed in the main reaction mass, which absorbs the heat of neutralization from the smaller initial reaction stream. The final pH adjustment is made automatically by means of a pH-actuated caustic control valve. Concentration of the finished product is regulated by the addition of water in the course of the initial neutralization step.

The excess sulfuric acid drawn off in the course of separation is suitable for use in agriculture. In Europe the spent sulfuric is commonly used for fertilizer manufacture. However, this by-product is formed only if oleum is used as sulfonation agent. The use of sulfamic acid is feasible for this purpose, in which case the question of spent acid disposal does not arise.

Production capacity ranges from 150 kilos to 1000 kilos per hour in the various models of the "Sulfan" plant.

In conclusion, the following advantages can be claimed for the continuous system of sulfonation as

Continuous sulfonating unit of Mecchaniche Moderne in French plant.





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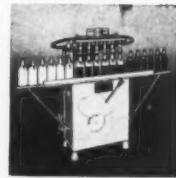
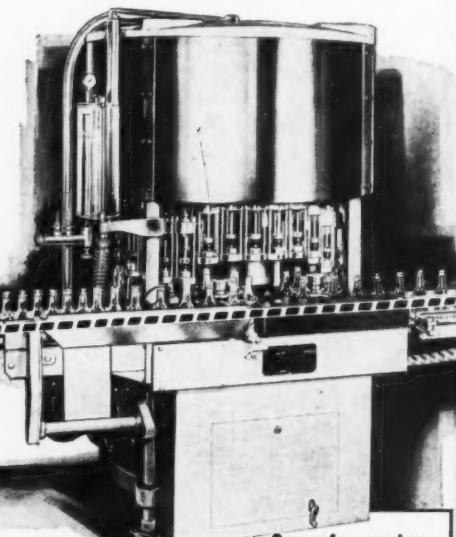
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compared with the batch system: a uniform end product of excellent color; savings in labor cost by completely automatic operation; savings in operation and maintenance costs by the absence of refrigeration equipment; economy in space; easy selection of suitable stirring equipment and construction material owing to constant viscosity and pH levels; economy in electric current by substituting overflow for pumps wherever possible; easy control and operation on one control board.

Five "Sulfan" units are currently operating in Europe and Asia: 150 kilogram plants in France and India, respectively; a 400 kilogram sulfonation plant in Turkey; and a 500 kilo and 1000 kilo unit in Italy.

New Namico Catalog

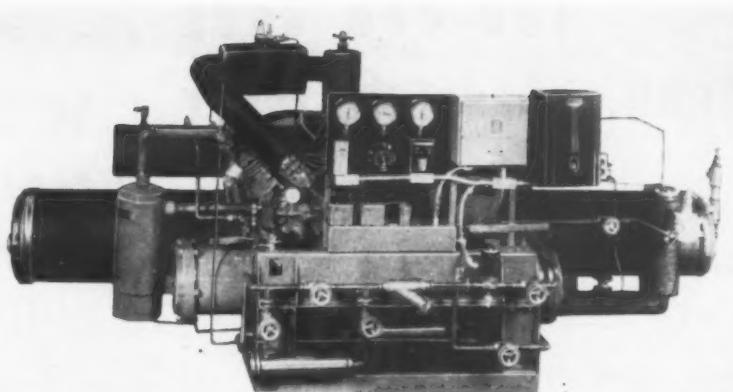
Soaps and Cleaners is the title of a new catalog recently issued by the National Milling & Chemical Co., Philadelphia manufacturer of soaps and detergents. The 60-page catalog fully describes the properties, uses and suggested formulas for the application of more than 50 Namico products.

An "Operational Guide" outlines the products best suited for use in hand dishwashing, machine dishwashing, laundering and pot, pan and equipment cleaning. The guide also discusses the application of Namico products to clean walls, autos, painted surfaces and floors.

Some of the synthetic granulated products listed in the new catalog are as follows: "447," "Pink Suds," "Protexal," "Suresuds," "Namisyn Beads," "J-60," and "A-N." Copies of the catalog may be obtained on request to the National Milling & Chemical Co., 4601 Flat Rock Road, Philadelphia 27, Pa.

New Doyle & Roth Cooler

Doyle & Roth Manufacturing Co., 136-50 24th St., Brooklyn, N. Y., recently announced the introduction of a new line of floored packaged liquid coolers designed to handle viscous or slurry type liquids. The cooler features a com-



New liquid cooler designed to handle viscous or slurry type liquids announced recently by Doyle & Roth Manufacturing Co., Brooklyn, N. Y.

plete refrigeration cycle and is claimed to be suited for refrigerant cooling in aerosol filling operations. Units are available in a range of sizes from five to 100 h.p.

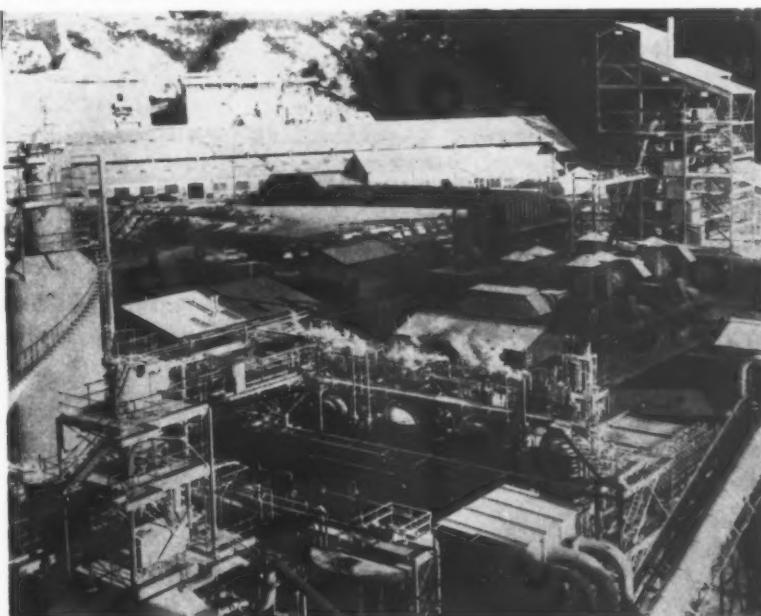
New Montrose Disilozane

Montrose Chemical Co., Newark, N. J., recently announced

the commercial production of disiloxane, a silicone compound designed as a starting material for high temperature lubricants and hydraulic fluids. Samples and specifications can be obtained from Montrose's New York sales representative, R. W. Greeff & Co., 10 Rockefeller Plaza, New York 20.

New Johns-Manville synthetic silicates plant at Lompoc, Calif., is now in full production making an initial line of four synthetic calcium silicates marketed under the name, "Micro Cel." These serve as absorbents and anti-caking agents to improve the free flowing characteristics of insecticides, cleansers and detergents, etc. Additional calcium silicates are under development and Johns-Manville also is working on magnesium and other metallic silicates.

The heart of the plant is the group of four reactors within a maze of pipes (middle foreground) where slurries of lime and diatomaceous silica are combined chemically to make a calcium silicate. This slurry is fed into two vacuum drum filters (behind reactors under roofed housing) which change the slurry to a cake. Then the cake becomes powder as it goes through two long conveyor dryers (identified by square cupola vents) and a flash dryer (not visible). Finally, "Micro Cel" powder is pneumatically sent upward to the "dry end" tower (upper right). This tower contains a collector, milling equipment and storage bins. At the tower base is a packaging room where "Micro Cel" is put in bags for shipment. The plant is largely automatic in operation and its present capacity is upwards of 1,000 ca. loads a year.



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Excerpts From The Chemical Hall of FAME

**William
Henry
Perkin**

(1838 - 1907)



Knighted in England in 1906 for his contributions to pure chemical research which included the discovery of the reaction depending on the condensation of aldehydes with fatty acids.

By 1906, Foremost's El Dorado Division had been a prime supplier of coconut oil to American chemists and manufacturers for more than a decade.

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FATTY ACIDS METHYL ESTERS
OF COCONUT OIL

Fatty Acids	Caprylic Coconut	Eldhyco* Palmitic	Capric Myristic	Lauric
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Methyl Esters	Caprylate Coconate	Eldo 18* Myristate	Caprate Caproate	Laurate Palmitate
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*T.M. Reg.

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In Chicago: M. B. Sweet Co. In Cincinnati: Howard Deck In Cleveland: F. W. Kamin Co.

Book Reviews

Syndets Bibliography

"Bibliographical Abstracts of Methods for Analysis of Synthetic Detergents" 1888-1956, prepared by Jay C. Harris, Monsanto Chemical Co., Dayton, O., and Rubin Bernstein, Clarkson Laboratories, Philadelphia, Pa., published by the American Society for Testing Materials, 1916 Race Street, Philadelphia, Pa., 44 pages, six inches by nine inches, paper bound, price \$1.50. This bibliography brings up to date and supersedes the previous 1953 edition. The number of abstracts has grown from 96 to 311, abstracted in all instances with the peculiar needs of the analyst in mind. References are arranged chronologically. The indexing is exemplary. An author index lists all authors alphabetically, indicating the senior author in all cases. The subject index is cross-referenced, giving individual method or compound, as well as classification to cover type of analysis. Surface active agents are indexed under broad classifications of anionic, cationic, and nonionic, and also under individual groups and compounds.

The bibliography was prepared by Harris and Bernstein for subcommittee T-2 of ASTM committee D-12 on Soaps and other Detergents. It is intended for use by detergent analysts and should prove of interest to anyone concerned with dry cleaning, laundering, textiles, and the purchase of detergents for institutional maintenance. Copies may be purchased from ASTM.

★

Pyrethrum Booklet

Pyrethrum Facts for 1957, an illustrated booklet covering the current pyrethrum crop year, has been published recently by African Development, Inc., New York. Uses of pyrethrins in various formulations are listed. A graph presents the export picture from 1946 to the present, both from British East

Africa and from the Belgian Congo. Information on world sales of baled flowers and extracted pyrethrins shows the United States as the leading purchaser, taking about 68 percent of the entire production, with the United Kingdom second, buying 11 percent. Copies of the booklet may be obtained from African Pyrethrum Development, Inc., 65 Pine Street, New York 5.

★

Hammer Mill Folder

Sprout, Waldron & Co., Muncy, Pa., recently published a new bulletin describing its "HD" hammer mill. The four-page, two-color brochure outlines various installation arrangements and also describes construction and conventional product collecting systems which are available for use with the mill. Also included is a listing of specifications. Copies of the bulletin, 1-B, are available on request.

★

New Union Carbide Catalog

Union Carbide and Carbon Corp., New York, recently announced a new catalog listing its principal products and the division or subsidiary that markets them. The products are listed in a cross-referenced alphabetical index. Also included in the 12-page brochure are the locations of the division's general and sales offices. Copies can be obtained from Union Carbide and Carbon Corp., 30 East 42nd St., New York 17.

★

Methylene Chloride Data

A new, 24-page booklet giving complete technical information on methylene chloride, was issued recently by Dow Chemical Co., Midland, Mich. The three-color brochure, entitled "Methylene Chloride, the Better Multipurpose Solvent," contains a listing of the product's applications which include an aerosol pressure depressant, cold cleaning solvent, extraction and vapor degreasing solvent and secondary refrigerant. Accord-

ing to the booklet, the product may also be utilized as a bonding agent and a cold cleaning solvent for plastics and a treating material for vinyl plastic. Copies of the booklet may be obtained on request.

★

Potassium Phosphate Data

Tetrapotassium pyrophosphate and its properties, use characteristics and applications are described in a revised technical bulletin, published last month by Westvaco Mineral Products Division of Food Machinery and Chemical Corp., New York.

Solubility and building characteristics of $K_4P_2O_7$ make it a suitable additive for liquid soaps and shampoos, to increase detergency. Tetrapotassium pyrophosphate is five times as soluble as the corresponding sodium salt at 75°C, and thirty times as soluble at room temperature. The high solubility is important in the formulation of heavy duty liquid synthetic detergents for household laundering of cottons, where a high phosphate content is required.

Tetrapotassium pyrophosphate sequesters calcium and magnesium ions, thus aiding clarity of soap based liquid detergent products and increasing their rinsability.

Technical Bulletin No. 505-2R is available from Westvaco at 161 East 42nd Street, New York 17.

★

New Rohm & Haas Booklet

Rohm & Haas Co., Washington Square, Philadelphia 5, recently published a new booklet describing four of its tertiary-alkyl primary amines. Principal uses of these compounds are in the formulation of surface active agents, bactericides and corrosion inhibitors. The 36-page, paper-bound brochure gives the physical and chemical properties, suggested applications and chemical reactions of tertiary-butylamine, tertiary octylamine, "Primene 81-R" and "Primene JM-T." Numerous charts and graphs are used to provide additional product data. Copies of the booklet are available.



"Locked in the Versene claw"—that's the fate of metal ions when they encounter chelation. They become trapped within the inner ring structure of a newly formed compound where they cannot hinder processing or mar product quality. This phrase is taking on new meaning for detergent manufacturers, as the chemistry of chelation is reviewed.

The Chemistry of Chelation: Part IV

*Applications in the detergent industry · Hard Soaps
Liquid Soaps · Syndets · A new kind of chemistry?*

As has been discussed previously, the Versene® series and Versenol® series chelating agents will inactivate practically all metal ions they contact in solution. The pH factor of the solution or of the finished product influences the choice of agent. To control iron in caustic solutions, look to Versene T®; in alkaline solutions—Versene Fe-3 Specific®; in acid—the Versene series. Or if solutions drift from one pH value to another, an effective Versene combination can be devised. If the right Versene or combination is properly used, processing is improved, and exceptional results are realized. For, unlike polyphosphates that lose effectiveness in alkaline media and at high temperatures, the Versene remains stable; is many times more effective; and can be used alone or with polyphosphates in the formulating of practically all forms of detergents.

HARD SOAPS

The old stand-by, soap, is still the best emulsifier for greases and oils. And with Versene formulated into the product, calcium and magnesium ions become inactivated in solution; no hard-water soap scum can precipitate. In laundry soaps, this chelation action also means that insoluble deposits from previous washings are removed from the laundered cloth. At the same time, the cloth's original softness is restored. Proteinaceous soil is easily solubilized.

The use of such a Versene-formulated product often eliminates the bleach

operation and several rinses in power laundries.

LIQUID SOAPS

Chelating agents improve liquid soaps in several ways. To begin with, a Versene-compounded product made using tap water has the same clarity as one made with distilled or rain water. Such soaps are lighter colored and protected against rancidity and change of color. In addition, silica deposit is retarded when the soap is stored in glass. Concentrated liquid soaps which can be diluted with hard water are obtained through use of additional Versene.

Because Versene inactivates all the metallic salts which produce insoluble soaps, the filtration step of the manufacturing process is simplified. Chilling is eliminated, since no calcium or magnesium soap is present to precipitate when the temperature is lowered. Finished liquid soap does not clog dispensing equipment.

Ordinarily, the correct amount of the chelating agent is simply added to the saponification mixture. If necessary, however, it can be added to the liquid soap after saponification. In the latter case, Versene 9 is recommended. Versene 9 has the same pH—9.3—in dilute solutions as liquid soap, hence large amounts may be added to the finished product without changing its pH.

SYNDETS

Since synthetic detergents do not form insoluble soaps, it is commonly be-

lieved that their action is independent of water hardness. This notion is erroneous—syndets react to form calcium and magnesium salts with a resulting loss of detergency; the only difference is that the salts are soluble, hence cannot be seen. In certain instances, detergents also form precipitates through reaction with iron and various other divalent metallic salts. For these reasons, chelation with Versene, Versenol, or Versene Fe-3 Specific is an important factor in syndets.

With detergents, Versene is best introduced during the manufacturing process. If this is not possible, the bead form of Versene can be added to the builder, which is then mixed with the detergent. Two and one-half times as bulky as the powdered form, the beads will not stratify when packaged.

A NEW KIND OF CHEMISTRY?

Is chelation the answer to all ion contamination difficulties? Despite its many successful applications, the answer is sometimes "no." For, remarkable as it is—in locking up metal ions to simplify processing and improve detergent products of every kind—chelation does not solve all problems in every application. But wherever metal ions do pose a problem, investigation is worthwhile. And we'll help in every way possible. To see if you can put Versene or Versenol products to profitable use, write Technical Service and Development, Dept. CA-903-A, THE DOW CHEMICAL COMPANY, Midland, Michigan.

YOU CAN DEPEND ON



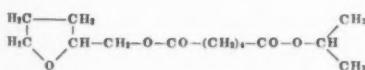
SOAP and CHEMICAL SPECIALTIES

NEW Patents

The data listed below is only a brief review of recent patents pertinent to the readers and subscribers of this publication. Complete copies may be obtained by writing to the publisher of this magazine, MacNair-Dorland Co., 254 W. 31st Street, New York, N. Y., and remitting 50c for each copy desired. For orders received from outside of the United States the cost will be \$1.00 per copy.

No. 2,772,239. Detergent Compositions, patented by Allen H. Lewis and Richard D. Stayner, Berkeley, Calif., assignors to California Research Corp., San Francisco, Calif. The patent covers a detergent composition consisting essentially of an active organic detergent component and a foam-improving agent, said active organic detergent component consisting of water-soluble sulfates of normal aliphatic alcohols derived from hydrogenated tallow fatty acids and containing a major proportion of C_n-alkyl sulfate, and water-soluble C_n-C_m monoalkyl benzene sulfonates in a weight ratio of sulfate to sulfonate from about 1:1 to about 1:6; and said foam-improving agent being a para-acylphenol characterized by a straight chain of 8 to 16 carbon atoms in its acyl portion and present in the detergent composition in an amount from 5 to 50% by weight, based on the weight of said sulfates of normal aliphatic alcohols.

No. 2,769,744. Insect Repellent Composition and Method, patented by Eduard Usteri, Basel, Switzerland, assignor to Ciba Limited, Basel, Switzerland. The patent reveals a process of repelling insects, which comprises applying to the region from which the insects are to be repelled, a repellent composition of matter, which contains as an insect repellent active substance the ester of the formula



No. 2,770,599. Stable Liquid Shampoo, patented by Hyman Henkin, Bayside, N. Y., assignor to Colgate-Palmolive Co., New York. Described is an opaque liquid shampoo consisting essentially of about 5 to 35% by weight of a detergents salt from the group consisting of water-soluble anionic sulfated and sulfonated detergents salts, about 0.5 to 10% by weight of behenic acid present therein as an opacifying and stabilizing agent, about 0.25 to 3% by weight of a high-

ly hydrogenated castor oil having a melting point of at least about 180° F., and water in an amount sufficient to prepare a fluid composition, said shampoo having a pH of from 5 to 7.5.

No. 2,771,479. Insecticidal Compounds, patented by Herman S. Bloch, Chicago, Ill., assignor to Universal Oil Products Co., Chicago, Ill. This patent deals with the condensation product of a polyhalogenated cyclic diene selected from the fluoro and chloro poly substituted cyclopentadienes and cyclohexadienes containing not more than 10 carbon atoms per molecule with a compound selected from the fatty acids containing at least one double bond per molecule, and from their alcohol esters, amides and metallic, ammonium and substituted ammonium salts, said fatty acid compound containing at least 8 carbon atoms per molecule.

No. 2,771,390. Synergistic Insecticidal Compositions, patented by Byron Williamson and Thurmond A. Williamson, Dallas, Tex. A stomach poison for insects is claimed which includes 1, 1-dichloro-2,2-bis(p-ethylphenyl) ethane, a residual type bait, and another substance selected from the group consisting of O,O-dimethyl thiophosphate of diethyl mercaptosuccinate and O,O-diethyl-O-[2-isopropyl-4-methyl pyrimidyl (6)] thiophosphate.

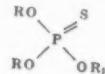
No. 2,772,198. Method of Killing Flies With Composition Comprising Pyrethrins and p-Aminoazobenzene, patented by Carl W. Smith, Evanston, Ill., and Norman W. Templin, Hammond, Ind., assignors to Standard Oil Co., Chicago, Ill. This patent teaches a method of killing flies which comprises spraying a fly-infested area with a composition comprising a refined mineral oil containing about .02 to 2 weight per cent of pyrethrins based on total composition which composition contains an amount by weight of p-amino azobenzene which is .2 to 5 times the amount of pyrethrins.

No. 2,770,656. Preparation of Ethylene Glycol, patented by David J. Pye, Concord, Calif., assignor to The Dow Chemical Co., Midland, Mich. A catalytic vapor phase process is revealed for hydrating ethylene oxide to ethylene glycol which comprises passing a vapor phase mixture of water and less than an equimolecular proportion of ethylene oxide over a catalyst comprising a normal calcium ortho phosphate at a reaction temperature below 500° C.

No. 2,772,203. Stable Dental Creams Containing Higher Aliphatic Acyl Amide of Aminocarboxylic Acid Compound, patented by Gerhard Martin Salzmann, Franklin Lakes, N. J., assignor to Colgate-Palmolive Co., Jersey City, N. J. The patent covers a dental cream comprising (1) a polishing material selected from the

group consisting of calcium- and magnesium-containing polishing agents, (2) a substantially saturated aliphatic acyl amide of a saturated aliphatic monoaminocarboxylic acid compound having 2 to 6 carbon atoms, the aliphatic acyl group having about 12 to 16 carbon atoms, and less than about 15% by weight based on said amide of higher fatty acid material, the amount of said material being insufficient to substantially adversely affect said amide, and characterized by (3) a calcium and magnesium ion suppression agent in an amount from about 0.1 to 5% by weight.

No. 2,770,567. Insecticidal Compositions of Esters of Thionophosphoric Acid Stabilized by Organic Sulfates or Sulfonates, patented by Karlfried Wedemeyer, Leverkusen-Bayerwerk, and Detlef Delfs, Leverkusen-Schlebusch, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany. Described is a stabilized non-aqueous insecticidal composition containing as an active ingredient an insecticidal neutral ester of thionophosphoric acid of the following general formula:



wherein R stands for lower alkyl and R₁ for a member of the group consisting of β-ethylmercapto lower alkyl and a p-nitrophenyl, and as a stabilizer about 0.5 to about 20 mol percent, based on the number of mols of active ingredient of a compound having the following general formula:



wherein R₂ stands for lower alkyl, and R₂ is a member selected from the group consisting of lower alkyl, O-lower alkyl and tolyl.

No. 2,770,600. Particulate Detergent Compositions, patented by Louis Gene Ricciardi, Brooklyn, N. Y., assignor to Colgate-Palmolive Co., Jersey City, N. J. Covered is a detergent composition consisting essentially of a water-soluble particulate organic detergent in spray dried form, the major portion of said particles being retained upon a standard U. S. No. 100 sieve, admixed with from 1/4 to 10% by weight of the total mixture of powdered anhydrous aluminum silicate prepared by calcining kaolin and having the approximate formula Al₂O₃·2SiO₂, said composition exhibiting an increased bulk density in comparison to similar spray dried particles which have not been admixed with anhydrous aluminum silicate.

No. 2,772,204. Dental Preparations Containing Higher Aliphatic Acyl Sarcoside Compounds, patented by William James King, River Edge, N. J., assignor to Colgate-Palmolive Co., Jersey City, N. J. A dental preparation is claimed comprising a sarcoside compound selected from the

(Turn to Page 179)

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Products and PROCESSES

Dustless Wash Powders

How to manufacture non-dusting granular washing and cleansing agents is one of the problems encountered by the specialties maker. To counteract dusting, it has been proposed to treat the powders during or after processing with water-insoluble oils such as mineral oil, with hygroscopic substances such as glycerine and glycol, or with hydrophilic fatty substances such as fatty acid mono-stearates. These suggestions require an additional operation in the manufacturing process. Moreover, in some cases, substances may be introduced which do not add to or may even detract from the cleansing properties of the washing compound.

A new method for the manufacture of granular non-dusting washing agents employs the agglomeration of finely divided powders. The process calls for the mixing into a pulverulent detergent or a pulverulent component thereof a pasty addition either of the detergent itself or of the supplementary component thereof. The paste must contain water and a capillary-active substance in such amount that a granular but pourable product is obtained. The agglomerate obtained without application of heat from an external source is solidified. Solidification may be accompanied by continuous agitation. British patent 753,347, 1956, Henkel & Cie., Dusseldorf, Germany.

— ★ —
ingredients being stirred continuously until saponification is completed.

A mixture containing a fatty acid and a small amount (i.e. three percent by weight) of shark oil and/or sperm oil can be quite readily processed by dry saponification. The quality of the soap produced in this manner depends on the fatty alcohols present in sperm or shark oil, which are set free when saponification takes place. British patent 754,432, 1956, Hugh Highgate & Co., Ltd., Paisley, Scotland.

Spitzer Patent in U. K.

A patent covering "composition and means of producing and supply detergent lather" has been granted in Britain to H. G. Cruikshank Fairweather, London, for J. G. Spitzer, New York. Mr. Spitzer is one of the original patentees of the patent covering "Rise" shave lather, now being made and marketed by Carter Products Co., which has exclusive rights to the patent. A pressure tight container having a valve controlled opening contains a composition for use in producing a stable lather. This composition consists of a liquid mixture of an aqueous detergent solution and a volatile propellant in the liquid phase. The detergent solution is non-gelling at room temperatures and contains at least about five percent and not exceeding about 30 percent by weight of detergent. The propellant comprises one or more halogenated alkanes having not more than two carbon atoms and at least one fluorine atom. The proportion of the propellant is from 0.2 to about 0.0125 moles per 100 grams of the composition. The propellant has a vapor pressure in the range of about 300 psi gauge at 70°F and a solubility in water not exceeding about 32 cc of gas to 100 grams of water at atmospheric pressure at 25°C. The container is filled

with the desired composition of soap or detergent solution and propellant in certain proportions. Both ingredients are introduced under pressure. The composition is mixed in the container by agitation induced by shaking. Brit. patent 748,411, 1956.

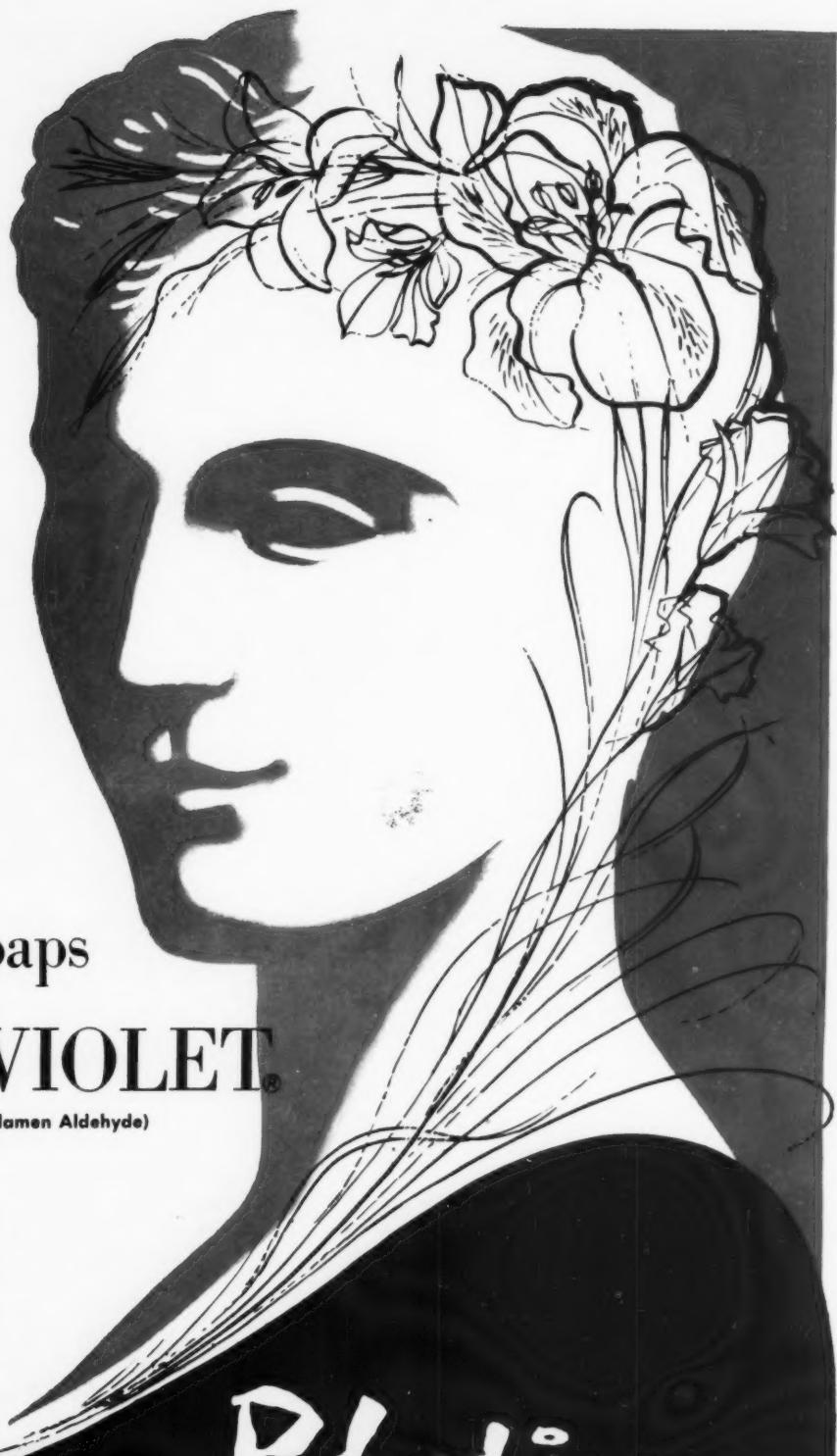
Automobile Polishes

A car polish must satisfy the following requirements: 1. the polish must not attack the paint work; 2. it must remove oils, stains and grime from the car body; 3. it should leave a glossy film on the car's surface; and 4. it should increase and not lower the weather resistance of the paint film.

Petroleum solvents with a minimum content of aromatic compounds should be used in polish formulations. Emulsion-type polishes without solvent or with only a small percentage of solvent are desirable. For good oil removal a small amount of solvent may be necessary. High gloss and increased weather resistance are accomplished by the incorporation of high-melting hard waxes and/or silicone oils. Waxes mainly used for car polishes include carnauba and some of the modern synthetics. Micro-crystalline type waxes are used also, especially in conjunction with silicone oils. Some polishes contain abrasives, but the presence of gritty oversized particles must be avoided. Diatomite is recommended as an abrasive for car polishes. Fine pumice, bentonite, and kaolin may also be used. Following are two formulae suggested by Carbide and Carbon Chemicals Corp., New York. (1) Liquid polish: carnauba wax, 10; beeswax, 6; paraffin wax, 2; stearic acid, 7; morpholine, 1.7; water, 75; white spirit, 75. (2) Semi-liquid polish: carnauba wax, 12; beeswax, 4; paraffin wax, 6; stearic acid, 7; triethanolamine, 2.7; water, 50; white spirit, 50 parts.

If less water and/or solvent is used, a more paste-like consistency is obtained. A paste polish results, if 25 parts of water ab-

(Turn to Page 179)



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By E. G. Thomssen, Ph. D.

THE subject of advancement in business was discussed recently by a group of which I happened to be part. Those present were people who had been successful in various fields of endeavor. Their comments began with economic conditions in the U. S. and abroad, and eventually led to talk of the capabilities of leaders in government, education and industry. In the group was a gentleman who had recently retired as president of a large textile concern, which he had administered efficiently and with a profit over the years. He also had represented the cotton spinners as coordinator under the military administration in Europe just after World War II.

He was extremely modest about his own accomplishments. One member of our group asked him how he had worked his way to the top. He explained that upon the completion of his formal education he had accepted a job at a nominal salary in a small southern mill. At the time, production at this mill was carried on in a slipshod, out-dated fashion. From time to time he suggested improvements, most of which were disregarded. Finally, one idea was adopted which paid off handsomely. This brought him to the attention of the owner of a large mill who offered him a better position, which he accepted. Being ambitious, he took courses in business administration. When a vacancy occurred in the executive ranks of his firm, he was asked to fill it. He became vice-president, but still continued to keep in touch with the production end of the business. In his new position he continued to apply his knowledge of production and business methods. Eventually he was chosen president of the company and later became head of a group of merged companies. In relating his experi-

ences, he stated modestly that there were many others who were better equipped for the job. He added this observation: Generally production men operate in such a limited field that few of them reach the very top because of their lack of knowledge of administrative duties beyond their special fields. He pointed out, however, that when a production man heads a company, usually it becomes more successful. This may be traced to the fact that generally production men are harder workers, steadier, less concerned with outside activities and more systematic in their work. This man regretted that production men are not afforded the opportunity more generally of working their way to the top of their companies. He himself had advanced several production men in the firm he headed with very satisfactory results.

Opinions as to the reasons why individuals become the heads of companies were expressed by others. Included were luck, nepotism, control of the firm passing from father to son, marriage into the controlling family, sales ability, having a "big name" in the same or other industry, profession, government or armed service, being an

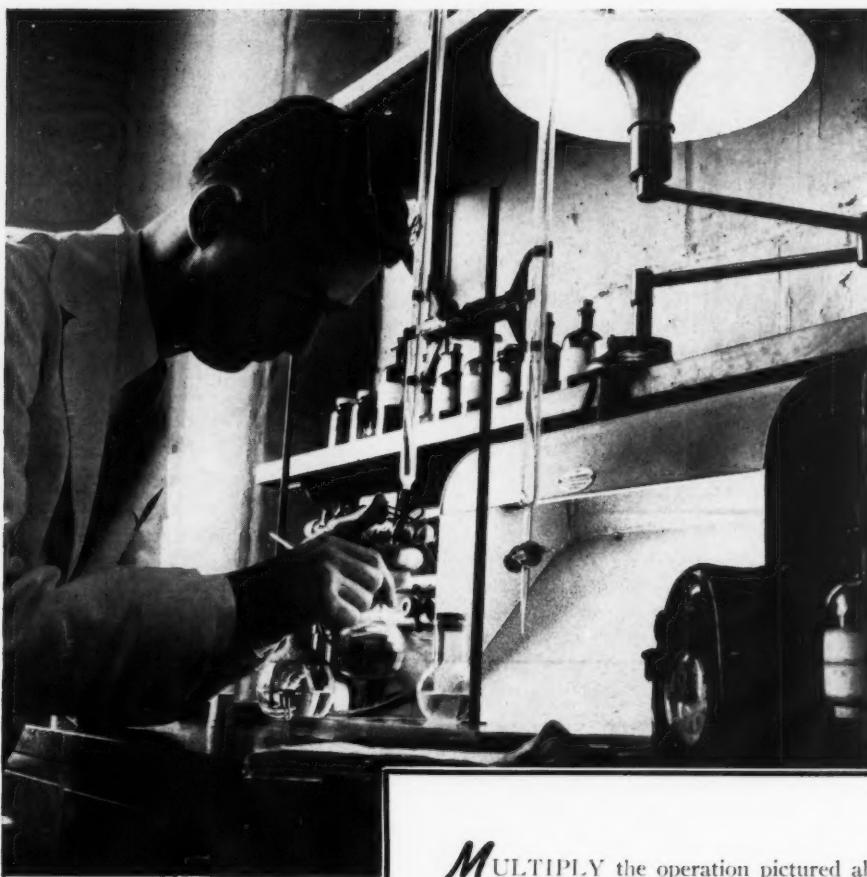
Dr. E. G. Thomssen



extrovert, having knowledge of law, having company training, by being in the right place to gain intimate knowledge of the intricacies of the business, or by diligently implementing a desire to master certain phases of an operation apart from those pertaining to the immediate work for which the person was employed.

At this point another member of the group was asked his opinion. Most of us did not know his background. I was pleased to learn that he was another production man who had risen to the presidency of a public utility company. He had made such an outstanding success of his job that the directors of the company had refused to permit him to retire, even though he passed the retirement age. This executive had spent 30 years with his corporation. He had joined it as an electrical engineer, after having been, for a short time, a city electrician. He was constantly on the lookout for defects in the generators and hydroelectric plants in which he was interested. As time went on he became manager of all operations. In this job he devoted much of his time in establishing good relationships with labor, customers and city officials. Union representatives came to him and told him they were going to organize his men. He did not object and an election was held. The union lost by a large majority because his men had confidence in him and because he was already granting them greater benefits than those enjoyed in unionized plants.

When the vice-president of the company retired, the man in our group was elected to succeed him. A few months later, the president died suddenly and the newly elected vice-president was the sole candidate considered by the directors for the position. During his five year term in office, he revamped the plant, reduced rates, strengthened his sales and office staff, increased profits to such an extent that the company declared two successive 10 percent stock divi-



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dends after several years of declining profits. In addition, he sold out at a profit the troublesome transportation end of the business. As a production man in an executive position, he easily outdistanced the previous president, a lawyer, who was elected because the directors felt that his legal training and experience would enable him to deal more favorably with state commission and tax problems than a man with different background.

These Horatio Alger type stories are not cited to be entertaining. They are recalled to serve the useful function of laying to rest the myth that sound production men are not equipped to make good executives. Production men themselves are partially to blame for this widespread fallacy. In many cases they are too timid and too much concerned with their immediate duties to aspire not merely to run a plant, but to take charge of the entire organization. They are equipped to do as well, if not better, than others, provided they will just broaden their interests. The goal which they should have in mind is *adequacy* to fill any position that may offer itself. More presidents of companies would come from the ranks of the production department if they would expand their knowledge and interest in the whole operation, become more ambitious, and develop their extrovert tendencies. It is true that today they have many problems to solve in connection with manufacturing products, but an added interest in other phases of the business can provide a certain amount of relaxation, be a release from the possible boredom of the same day to day trials and, at the same time, eventually be extremely profitable.

If, as has been proven quite generally, production men make expert salesmen when such talents are called upon, they also excel as executives if they will just make use of all of their talents. Such an intention could make an excellent resolution for the new year of 1957.

We constantly read that corporations are seeking capable ex-

ecutives. They often consult employment agencies to find such talent. These agencies make a note of the job's specifications and consult various sources of information such as trade magazines, directories of professional groups and societies, and company house organs. They are in hopes of finding possible candidates for the job or of someone who may lead them to the right party. Most often they overlook production men. This condition may be remedied only if these men publicize their talents properly, or in some way cast themselves in a more favorable light as potential executives.

New Concrete Additive

THE availability of a new concrete additive from the polychemicals division of West Virginia Pulp & Paper Co., South Charleston, S. C., was announced recently. A bulletin (#301) describes the new additive. Small quantities of the material, which is sodium lignosulfonate derived from kraft paper lignin, reduce water requirements, lower cement content in the mix and, at the same time, improve the strength and workability of the concrete.

Phenol Data Sheets

SPECIFICATION sheets which fully describe its line of phenols, cresols and cresylic acids are now available from Pitt-Consol Co., Newark 5, N. J. Technical assistance as to the use of these materials is available by the company's chemists. Uniform, constant supplies in any volume are offered by Pitt-Consol Co.

Filling Monitor

OVERFILLING or underfilling of liquids or free flowing solids can be prevented by using a device made by General Electric Co. under the trade name, "Hytafill." The unit inspects every container on a production line. It may be quickly installed and adapted to conveyor lines operating at the highest speeds. The unit requires

little space and may be cleaned easily with water or steam. Substantial savings by reduction of overfilling of packages have been reported. Further information may be obtained from the X-ray Department, General Electric Co., Milwaukee 1, Wis.

New Lanolin Brochure

Lanolin's role as an emulsifier and emollient in soaps, hand creams, shampoos and related specialties, is discussed in a new brochure, recently issued by Robinson, Wagner, Inc., Mamaroneck, N. Y. The 24-page, paper-bound booklet is fully illustrated and features the early history of lanolin, its chemical composition and its physical properties. Copies are available on request.

New Rhodia Booklet

Odor control in animal experimental laboratories by use of "Alamask" chemicals is described in a new booklet recently issued by Rhodia, Inc., New York. The pamphlet also covers development of the odor control agents and methods of their application in laboratories. Copies are available on request to Rhodia, Inc., Engineering Section, 60 East 56th St., New York 22.

New Solvay Bulletin

Solvay Process Division of Allied Chemical & Dye Corp., New York, recently announced a revised, enlarged edition of its technical and engineering service bulletin #11, "Water Analysis."

This 100-page bulletin contains sections on various types of waters plus numerous tables of analytical data, conversion factors and turbidimetric and color standards. Also included is a special section on the preparation of reagents, indicators and standard solutions used in analysis.

Copies of the bulletin are available on request to Solvay Process Division, Allied Chemical & Dye Corp., 61 Broadway, New York 6.

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In the instance outlined here, Merchants actually beat the clock in an effort to get material to a customer when and where he needed it. Close cooperation and an efficient communication system among the nationwide Merchants' offices made it possible. Wherever you locate, Merchants can serve you.



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By John W. McCutcheon

RECORDERS are available in all types and sizes, including miniatures, for almost any type of soap and detergent processing. They are of no value, however, if they are not purchased or, if purchased, are not used.

During a recent visit to a detergent plant two recorders that might be said to fall in the latter category were noted: a recording thermometer on a glycerine evaporator on which there was no chart, and a pressure recorder on a fatty acid still which was being run but not inspected. The operator of the fatty acid still said he kept the records piled in a drawer by his desk. He was the only one who ever saw them.

He was a hardy soul, indeed! Could you blame him if he forgot to set a new chart some morning?

The other operator said the recorder hadn't been running since he took over the job three months back.

The writer couldn't find any charts for three years back! The odd part about the whole situation was that the analysis of crude glycerine was varying and that was one reason why the writer had been invited to take a look.

Now, it is quite doubtful if the failure to keep these records in shape was the entire answer to the problem. In fact, it was not. However, one thing is invariably true in the writer's opinion: such oversights spell out a poorly controlled factory and one which is apt to have high costs and inefficient production.

We suggest that the next time the business manager walks through the factory—he count the instruments on which last week's charts appear! A good follow-up in case he gets startled, is to ask casually to be shown the analysis on yesterday's chip soap or the



color on last week's shipment of shampoo to John Doe & Co. If it takes more than ten minutes to obtain the information, something is not clicking properly!

FOR those who noted our discussion of the "Menisco-matic Burette" last month, it should be

pointed out that a similar type device is sold by Emil Greiner Co., New York. The writer accidentally came across it in running through an accumulation of bulletins being arranged for filing. Apparently, when a new idea comes out, it blossoms in many places at once. One idea we had on this subject, however, never seems to have made the grade of popularity. It is offered here free of charge!

When the writer first started in the soap business in charge of a routine laboratory, he noted that the girl titrating glycerine from a 50 ml. burette was bobbing up and down on her stool like an apple in a barrel of water. By fastening two mirrors at a 45° angle on a metal rod that could be made to slide up and down the burette, it was quite possible to read the upper values with considerable ease. The mirrors operated like a periscope, and since the upper one was exactly at 45°

the effect of error through parallax was less than it might have been by the stretched-neck method of reading. The operator was rather skeptical when the device was first introduced, but she was persuaded to give it a try. After a few days she wouldn't part with the device. Memory is faulty on just what happened to it finally, but the writer thinks it was in use for a number of years.

Speaking of analytical procedures, calls to mind several discussions conducted in this column on gas chromatography within the past six months or so. Well recently, the writer visited a rather large research laboratory at which this type of apparatus is in constant use. A few very important points were noted which should prove of great interest to oil, fat and detergent chemists. The writer was quite impressed at any rate. Unfortunately, it is not possible to give this company the proper credit by naming places and people. Since the company involved is only connected with the detergents industry by remote association, no confidence is broken by the following remarks however.

The reader may recall that our early remarks on gas chromatography dealt with temperature ranges. Oleic and stearic acid were thought to be just border line cases due to their high boiling points. Actually, gas chromatography can be applied in a partial vacuum system, and when this is done and compared with the normal curve, the results show striking separations. It is as though a section of the normal curve were spread out and magnified a hundred fold. In the equipment noted no extreme precautions were taken to stabilize the partial pressure, and this did not seem to introduce any great error. However, the writer feels that it would be a good thing to introduce automatic control of this function.

Another very interesting development was the use of the column as a means of fractionation. A small spigot was introduced at the back and a fairly large tube

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6-1973

substituted for the original. This permitted fractions to be drained off. By this means an original mixture, after preliminary separation and distillation, of course, could be run through the column for a rough draft chromatographic separation. Then the separated fractions were re-run through for final identification. It should be mentioned that this work was being done on a practical scale and the operator had shelves of graphs to prove these points. A most interesting person indeed. Sorry I can't introduce him!

* * * * *

READING Dr. Thomssen's column last month on Holland and Spain was very interesting to the writer and recalled a pleasant visit to those countries several years ago. Holland with its cheap cigars and its occasional wooden shoes! Germany with its get up and go, and as Dr. Thomssen says, lazy Spain where the dining rooms in the hotels do not open until 2 p.m. One particular point Dr. Thomssen made dealt with the efforts being exerted to change the working hours. Thinking people in most of the southern European countries deplore the 9 p.m. dinner, which is a tremendous handicap to personal efficiency. It is the opinion in this corner that some day things will be changed, and for the better.

* * * * *

RECENTLY a flood of correspondence has come in regarding the formation of a national committee on standardization of methods in the detergent industry. Just why this correspondence was directed at the writer is somewhat mystifying. However, time in this matter is already running out—the Congress meets in London next April and several persons have already expressed a desire to cooperate on this undertaking, about which more will be said next month. In the meantime, the writer would welcome any suggestions along these lines from interested parties. May we hear please!

TGA Hears of Non-Allergenic Perfume

THE 24th meeting of the scientific section of the Toilet Goods Association was held at the Waldorf-Astoria Hotel, New York, Dec. 12. The six papers presented at the all-day meeting included a report on "Dermatological Evaluation of Perfumes of Low Sensitizing Index" by Raymond A. Osbourn, M.D., Georgetown University Medical Center, Washington, D. C.; Thomas W. Tusing, M.D., Hazleton Laboratories, Falls Church, Va.; Francis P. Coombs, M.D., New York; and Edward P. Morrish, Firmenich, Inc., New York. The growing importance of skin sensitization to perfume owing to the increasing use of fragrance in various products has prompted a series of experiments resulting in a number of perfumes considered relatively non-allergenic. Selected mixtures of individual aromatic chemicals or controlled isolates were screened by patch testing. This work yielded ten standardized perfume mixtures called "Chemoderms" (Firmenich, Inc.). Each member of this series, intended for use in cosmetic and pharmaceutical products, has a different odor characteristic.

A panel of 1,029 women participated in a 21 day use test. About 26 percent of the women had past histories of perfume sensitivity and about 39 percent had histories of dermal contact allergy. 94.7 percent of the women sensitive to perfume and otherwise allergic were found able to use "Chemoderms" without reaction, and 98.9 percent of the group without prior history were able to do so.

Donald H. Kirby, John H. Breck, Inc., Springfield, Mass., presented "A Method for Determining the Waving Efficiency of Cold Permanent Wave Lotions." The method consists of winding hair on a pegboard and allowing to process in a closed container for a specific period of time, neutralizing it, taking it from the pegboard, and placing it in a pan containing about three inches of water. The curl is measured while in the water

and results obtained in centimeters. This measurement is applied in a formula giving a result in percent waving efficiency. The procedure is repeated at several different waving time intervals. Results can be plotted on graph paper forming a curve. Several different types of lotions of known composition were tested and curves drawn.

Other papers presented at this meeting included "Zirconium Oxychloride—A New Ingredient for Antiperspirants," by E. G. Helton, E. W. Daley, and J. C. Ervin, Toilet Goods Division of Procter & Gamble Co., Cincinnati; "A Discussion of the Functions of a Cosmetic Research Department," by Joseph Kalish, technical editor of *Drug & Cosmetic Industry*, New York; "Dispersion of Pigments in Lipstick," by Mary Jakovics, Avon Products of Canada, Ltd.; and "Application of Gas Chromatography to Toilet Goods Analysis," by Nathaniel Brenner, Perkin-Elmer Corp., Norwalk, Conn.

At luncheon, Pierre Harang of Houbigant Sales Corp., New York, president of TGA, gave a brief address of welcome.

—★— New Sodium Lauryl Sulfate

A new grade of sodium lauryl sulfate, expected to find use as an emulsifier in the detergent, pharmaceutical and cosmetic industries, has been developed by American Alcolac Corp., Baltimore, it was announced recently. Called "Sipon WD," the product is a fine white powder with a mild odor. The material contains 99.7 percent alkyl sulfates. The material is made by a new solvent crystallization process recently developed by Alcolac and is now in production.

—★— d'Aigremont to S. A.

Jacques d'Aigremont, president of Roure-Dupont, Inc., New York, has left for his annual trip to South America, it was announced recently. He will visit the firm's South American facilities and confer with company representatives.



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News ...

"Hum," a low-sudsing liquid detergent for use in automatic washers, is the newest addition to the line of soaps and detergents of Lever Brothers Co., New York, now undergoing test marketing. "Hum" is packaged in pint and quart size containers by Continental Can Co., New York, and features plastic cap over dripless red plastic pour spout. Color scheme is predominantly royal blue and white, with light blue covering smaller areas. Name is in red.





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News

Michael J. Roche Dies

Michael J. Roche, 56, who was largely responsible for developing the advertising policies of



Michael J. Roche

Lever Brothers Co., New York, died Dec. 13, in New Rochelle Hospital, New Rochelle, N. Y., after a brief illness. His home was in Chatsworth Gardens, Larchmont, N. Y.

Mr. Roche had been with Lever for more than 36 years. His career closely paralleled the company's advertising history. At the time of his death he was general manager of Lever's corporate advertising services division.

At various times in his career Mr. Roche had been general advertising manager, assistant advertising manager, radio manager and brand manager of "Lux" flakes and "Lux" toilet soap. In 1934 he purchased and put on the air "Lux Radio Theater."

Mr. Roche was active in the Association of American Soap & Glycerine Producers, Inc., and the Association of National Advertisers, both of New York. He was also a trustee of the Bentley School of Accounting and Finance in Boston, his native city, and a Past Grand Knight of the Boston Council of the Knights of Columbus.

Surviving are his widow, Genevieve; a son, William J. Roche,

of Framingham, Mass.; his mother, Mrs. Mary C. Roche; a brother John, and five sisters.

—★—

Purex Names Bruce

Appointment of Leslie C. Bruce as advertising manager of all brands of its Manhattan Division was announced recently by Craig Davidson, vice president and marketing director of Purex Corp., South Gate, Calif. Manhattan brands include "Sweetheart" toilet soap, "Protex" deodorant soap and "Blu-White" bluing.

—★—

Robert N. Mahaffy Dies

Robert N. Mahaffy, a salesman for 35 years with Peck's Products Co., St. Louis, died at Barnes Hospital in that city Dec. 19, after a long illness. Mr. Mahaffy was 61 years old.

—★—

Clorox Appoints Parks

Thomas D. Parks has been appointed vice-president of research of Clorox Chemical Co., Oakland, Calif., it was announced recently by W. J. Roth, president. Dr. Parks was formerly director of research. Prior to joining Clorox in September, 1955, Dr. Parks was chairman of the chemistry department and assistant director of physical sciences division of Stanford Research Institute.

Thomas D. Parks



In New Johnson Post

Appointment of A. F. Buckman as assistant director of the research and development division



A. F. Buckman

of S. C. Johnson & Son, Inc., Racine, Wisc., was announced recently by J. V. Steinle, division vice-president. Mr. Buckman was formerly production control manager of the firm's production division. Mr. Buckman joined Johnson in 1946 as development supervisor in the research and development division and later served as head of the quality control department. He previously had been associated with R. M. Hollingshead Corp., Camden, N. J., and A-Penn Oil Co., Butler, Pa.

—★—

Chemway Elects Beckwith

The election of Edmund R. Beckwith, Jr., as a vice-president and director of Chemway Corp., New Brunswick, N. J., was announced last month by Charles T. Sillway, president. Mr. Beckwith was also named president of the Crookes-Barnes Laboratories division, which had been formed through the merger of Chemway's two ethical drug subsidiaries, A. C. Barnes Co., New York, and Crookes Laboratories, Inc., Mineola, N. Y. Mr. Beckwith was formerly a vice-president of Warner-Lambert Pharmaceutical Co., Morris Plains, N. J.

Mackintosh in New Post

Henry G. Mackintosh has joined Candle Craft, Inc., Newark, N. J., as a vice-president, it was



Henry G. Mackintosh

announced recently by Bolling L. Robertson, president. Mr. Mackintosh formerly had served for 28 years with Standard Oil Co. of Indiana, Chicago, as merchandising manager of candles and specialties. In his new assignment, Mr. Mackintosh will be in charge of Candle Craft's midwestern operations. He will headquartered in Chicago.

Active in the affairs of the Chemical Specialties Manufacturers Association for a number of years. He has just concluded a term as vice-chairman of the administrative committee of the Aerosol Division of CSMA.

—★—

Louis Gillespie Dies

Louis Gillespie, president of Gillespie-Rogers-Pyatt, Inc., New York, died Dec. 1. Mr. Gillespie, 50, had been active in the shellac and resin importing firm until the last few months. He is survived by his two sons, Dr. Louis Gillespie, and Stevenson Burke Gillespie; his parents, Mr. and Mrs. John T. Gillespie; three brothers; two sisters; and two grandchildren.

—★—

New Penick Sanitizer

A new industrial and institutional sanitizer, for use on floors, tanks, pails, walls and manufacturing equipment, was introduced recently by S. B. Penick & Co., New

York. Trademarked "Heliogen," the new product is an almost white powder soluble in water of any temperature. It is non-toxic, non-corrosive and odorless, and is said to destroy bacteria within 15 seconds. One-half ounce of powder will make ten gallons of solution. Further information and samples are available on request to S. B. Penick & Co., Sanitizing Products Division, 50 Church Street, New York 8.

—★—

P&G Acquires Charmin

Acquisition of Charmin Paper Mills, Inc., Green Bay, Wis., by Procter & Gamble Co., Cincinnati, was announced recently. The purchase was consummated by exchange of approximately one share of P&G common stock for two shares of Charmin. The Wisconsin firm manufactures facial and toilet tissue and paper towels and napkins for industrial and institutional use under the "Evergreen" brand. It also makes a similar line of products for household use under the "Charmin" label.

Charmin will be operated as a wholly-owned subsidiary of P&G and assume the name of Charmin Paper Products Co. In addition to its Green Bay manufacturing and research facilities, Charmin has ground-wood paper and pulp mills at West Depere, Wisc., and Cheboygan, Mich. No personnel changes are contemplated.

—★—

Holcomb Relocates

J. I. Holcomb Manufacturing Co., Indianapolis, has moved its east coast plant to a new one story building at 115 Newman St., Hackensack, N.J., it was announced recently. For the past 30 years the plant had been located at 437 11th Ave., New York. Holcomb manufactures waxes and related sanitary cleaning compounds. The new unit contains 30,000 square feet and is serviced by a siding of the Erie railroad. Holcomb also maintains manufacturing facilities at Indianapolis, Dallas, Los Angeles, Atlanta and Toronto, Canada.

Frank S. Beveridge Dies

Frank S. Beveridge, 77, chairman of the board and former president of Stanley Home Products,



Frank S. Beveridge

Inc., Easthampton, Mass., died Dec. 4, at Noble Hospital, Westfield, Mass.

Mr. Beveridge founded Stanley Products in 1931, two years after leaving the Fuller Brush Co., where he had risen from a salesman, in 1913, to vice-president in charge of sales. His first office was in a tobacco shed. The firm, which manufactures brushes, cleaning equipment, waxes and polishes, now operates in every state in the United States, Canada, Alaska, Hawaii, Puerto Rico and Mexico.

Mr. Beveridge was born in Yarmouth, Nova Scotia, and attended public schools there and in Mount Hermon, Mass. He tried farming briefly, then started his career as a salesman in a grocery store in East Northfield, Mass. He became traveling salesman for the photographic firm of Underwood & Underwood, and later went into business for himself, leaving it to take the job with Fuller.

—★—

Givaudan Gives Party

The annual fall reception and cocktail party of Givaudan-Delawanna, Inc., New York, was attended by more than 300 members of the soap and detergent, aerosol, cosmetics, and allied industries. The event was held at the University Club in New York.

Pest Control Meeting

Six sessions devoted to the discussion of the history, resistance, research and control techniques of common species of cockroaches will highlight the 21st annual Pest Control Operators Conference to be held at Purdue University, Lafayette, Ind., Jan. 28 to Feb. 1. Other topics to be studied at the meeting include "New Techniques in Rodent Control"; "Safety Procedures with Pesticides"; "Estimating and Pricing in Pest Control Contracts"; "The Relationship of The Miller Bill and Food and Drug Laws to Pesticides"; and "Civil Defense as it Relates to the Duties of the Pest Control Operator."

—★—

New Liquisan Plant

Liquisan, Inc., Chicago, moved its manufacturing and office facilities on Jan. 1 to new and larger quarters at 2816 West Addison St., Chicago, it was announced recently by Jack Kerns, president of Liquisan.

Relocation in the new 35,000 square foot building is the first step in Liquisan's newly-launched expansion program, which has been made necessary by record high sales in 1956.

Prior to moving, Liquisan had been located at 1620 West Monroe St., Chicago. The firm manufactures "Liquisan" seal, paint and varnish stripper, "Jon" white emulsion bowl cleaner and disinfectant, and "L-S" concentrate all-surface cleaner.

—★—

Marder Forms New Firm

Formation of Redram Chemical Co., 5 Beekman St., New York, was announced recently by Jerry Marder, founder and president of the new firm. Mr. Marder was formerly general sales manager for Trio Chemical Co., Brooklyn, N. Y.

The newly-founded concern will manufacture disinfectants, deodorants and insecticides in three pound aerosol form. Redram plans to market its products solely through sanitary supply jobbers under both private label and the



Photographs above taken at recent annual reception of Givaudan-Delawanna, Inc., New York, include those of: Top: John Ewald, president of Avon Products, Oscar Kolin, Helena Rubinstein, L. L. Lowden and R. E. Horsey, Givaudan, and Tom Morgan, Soap & Chemical Specialties. In center photo: George Livesey, Colgate-Palmolive Co., George Warren of Givaudan and Frank Dedrick, Procter & Gamble Co. Bottom photo is overall shot of the gathering at University Club, New York.

"Red Ram" trade name. Distributorships are now available in many areas. Complete information may be obtained from the company.

—★—

Monsanto Names Sheppard

Monsanto Chemical Co., St. Louis, recently announced the appointment of Willard P. Sheppard, Jr., as assistant district sales man-

ager of the firm's New York consumer products division. For the past two years, Mr. Sheppard was division manager of sales training activities. Mr. Sheppard joined Monsanto in 1943 as an expeditor in the purchasing department of the company's Everett, Mass., plant. In 1952 he was assigned to the consumer products division.

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**Unique thickening agent provides
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A leading hand lotion is now using Carbopol 934 to make a good product better. This highly effective thickening agent is formulated to give the exact viscosity desired. The lotion has remarkable stability, has successfully passed shelf life tests of over two years.

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Write Dept. JH-1, B. F. Goodrich Chemical Company, 3135 Euclid Avenue, Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.



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GEON polyvinyl materials • HYCAR American rubber and latex • GOOD-RITE chemicals and plasticizers • HARMON colors

New Hercules Plastics Firm

Hercules Powder Co., Wilmington, Del., and Imperial Chemical Industries, Ltd., of Great Britain



Richard Yates

tain, have announced the formation of a jointly owned company for the manufacture of methyl methacrylate, a chemical used in the production of plastics.

Richard T. Yates has been elected president of the new company, which will be known as Hawthorne Chemical Corp. Mr. Yates formerly was manager of the agricultural chemicals division of Hercules' naval stores department. He has been on special assignment for the last four months in connection with formation of the new company.

P&G Tests Detergent Bar

Procter & Gamble Co., Cincinnati, is "getting awfully close" to a detergent bar mild enough to be used for bathing, according to Richard R. Deupree, chairman of the board.

The detergent wouldn't look much different from bar soap, but initially it would cost 25 to 50 percent more, he said. Mr. Deupree added that the advantages of detergent bars over soap for personal use are that it makes a richer lather, gets you cleaner and does not leave a ring in a tub or basin.

P&G and other companies are now test marketing detergents for skin, but the industry "hasn't clicked on it yet," Mr. Deupree de-

clared. He indicated that the detergent is not as mild as it should be, commenting, "I'd still prefer soap for a shower."

—★—

Clyde F. Cristman Dies

Clyde F. Cristman, 40, purchasing agent of raw materials for Lever Brothers Co., New York, died suddenly Nov. 17, at Amherst, Mass., after attending the Amherst-Williams football game.

Born in Framingham, Mass., Mr. Cristman attended Amherst College where he majored in mathematics. He joined Lever Brothers in 1938 as a messenger and a year later advanced to the position of clerk. In 1940 he was named assistant buyer. He was appointed purchasing agent of perfumes and chemicals in 1949, and in 1952, was named purchasing agent of tallow and grease.

He is survived by his wife, Kathryn; three daughters, Deborah, Dana and Nancy; his father, Clyde E. Cristman; and two brothers, William and John.

—★—

Stepan Appoints Rhoads

Stepan Chemical Co., Chicago, recently announced the appointment of William S. Rhoads as head of its eastern sales office. Mr. Rhoads will headquartered in New York. Prior to joining Stepan, he was associated with Atlas Powder Co., Wilmington, Del., and Cowles Chemical Co., Cleveland, in technical and sales capacities.

William S. Rhoads



Ungerer Sales Meeting

Plans for an expanded sales program were discussed at a sales conference held by Ungerer & Co.,



Kenneth G. Voorhees

New York, at the firm's New York office, Nov. 14-16. The meeting was attended by the company's entire sales force as well as Rene Emil Bernard, head of the Paris office.

Kenneth G. Voorhees, Ungerer president, outlined the future plans of the company which include an expansion of both plant and office facilities. A feature of the meeting was a discussion of the creative phases of perfume compounding by William H. Dunney, Jr., vice-president. Other topics discussed included "Quality Control," by George V. Brannigan, vice-president, and "Exchange Brand Oils," by Roy Hagelin.

The final day of the conference was devoted to a trip through Ungerer's Totowa, N. J., plant where Fred Schumm, manager of the flavor department, explained special features of new equipment and outlined various production techniques.

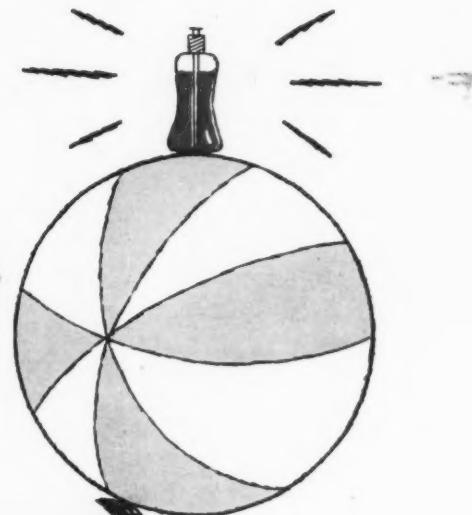
—★—

Dow Moves in Chicago

The Chicago sales division of Dow Chemical Co., Midland, Mich., has moved to new and enlarged quarters at 6000 West Touhy St., it was announced recently by Donald Williams, vice-president and director of sales. The division's office formerly was located at 135 LaSalle St.



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All your aerosols perform right and sell fast when perfumed with low-cost ORBIS odors. Put up in pressure cans, ORBIS-scented aerosols won't corrode. They won't clog or separate. And, for your new glass dispensers, ORBIS offers many winning odors that make clear, uniform mixtures at money-saving prices.

Ask ORBIS to answer your aerosol problems. Discover today how ORBIS quality and economy can steadily increase your good profits from good products.



Shulton Announces New Pyrethrum Synergist

DEVELOPMENT of a commercially feasible process for the manufacture of "Sesoxane", a new pyrethrins synergist, was announced by Shulton, Inc., Clifton, N. J., immediately after the annual convention of the Chemical Specialties Manufacturers Association in Washington, D.C. Said to combine effectiveness and economy with the absence of toxicity and residue problems, the new material is being produced in pilot plant quantities by Shulton's fine chemicals division.

"Sesoxane" was first discovered and reported as the 2-(2-ethoxyethoxy) ethyl 3,4-methylenedioxypyhenyl acetal of acetaldehyde by Morton Beroza of the United States Department of Agriculture. The synergist was further developed and tested by Dr. Beroza in cooperation with J. H. Fales and O. F. Bodenstein, both of U.S.D.A.

An economically feasible synthesis was found by Lee Parker and Jim Hardwicke of Shulton, who adopted the chemical name 2-(3,4-methylenedioxypyhenoxyl)-3,6,9-trioxaundecane for the material. Their method was based on the synthesis of piperonal, basic chemical required for the manufacture of "Sesoxane". Shulton has long been a producer of piperonal or

heliotropine by a continuous process. When the new synergist was first announced by U.S.D.A., Shulton recognized in it an opportunity to expand its production of piperonal toward the manufacture of the new material. The new process calls for piperonal to be treated with peracetic acid and acetic anhydride to get sesamol acetate, which is hydrolyzed to sesamol. Sesamol is treated with vinyl ethyl carbitol to yield "Sesoxane".

It is the methylenedioxypyhenoxyl group which makes the new Shulton synergist more active than other pyrethrins boosters, most of which contain a methylenedioxypyhenoxyl group. Actually Dr. Beroza was directed in his search for a better synergist by the presence of a 3,4-methylenedioxypyhenoxyl group in sesamolin, known to be five times more active as a synergist than sesamin, which has only methylenedioxypyhenoxyl groups. His search culminated in the U.S.D.A. synthesis of "Sesoxane".

Tests by the Peet-Grady and other methods have shown the new synergist to be more active than other commercially available booster compounds. Because of its effectiveness it will cost less to use than competitive synergists for equal knockdown and kill in formula-

tions with pyrethrins, allethrin, or cyclethrin. In combination with pyrethrins, "Sesoxane" gives high kill without DDT or other chlorinated insecticides. Because of its solubility in kerosene, propellants 11 and 12, and in other solvents, "Sesoxane" is easy to formulate in conventional equipment. It leaves no residue on evaporation, has a faint pleasant odor and low acute oral toxicity. Comprehensive toxicological studies are currently in progress and a number of formulations are being evaluated for registration with the U. S. Department of Agriculture. While "Sesoxane" has been proved effective against flies and mosquitoes it has shown interesting possibilities also against cockroaches and a wide spectrum of other insect pests.

In addition to its powerful synergistic properties the compound is said to be very active chemically and to show promise as an intermediate for a number of chemical products.

Pilot plant quantities of the new synergist are now available from Shulton who expects to be in full commercial production in the near future.

Fragrance Symposium

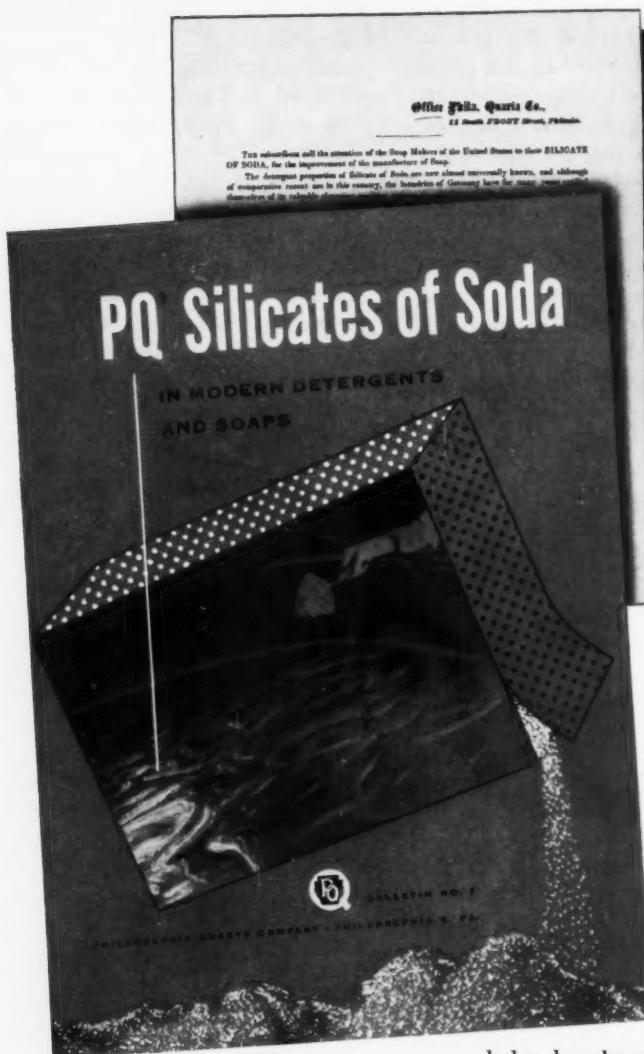
"What's Ahead in Fragrance" will be discussed at an open symposium of the American Society of Perfumers to be held at Essex House, New York, Mar. 20. The occasion marks the society's tenth anniversary. Speakers will include Camille H. Bourget, American Aromatics, Inc.; H. C. Saunders, Givaudan Delawanna, Inc.; Paul Bedoukian, perfume chemists; Amos Turk, odor engineer; Ernest T. Theimer, van Ameringen-Haebler, Inc.; and H. Gregory Thomas, Chanel, Inc.

Davis MM&R Rep.

Harold Davis & Co., Montreal, has been named exclusive sales representative in Canada to the confectionery industry for Magnus, Mabee & Reynard, Inc., New York, it was announced recently.

Shulton's Doctors Lee Parker and James Hardwicke, who developed the commercial Sesoxane process.

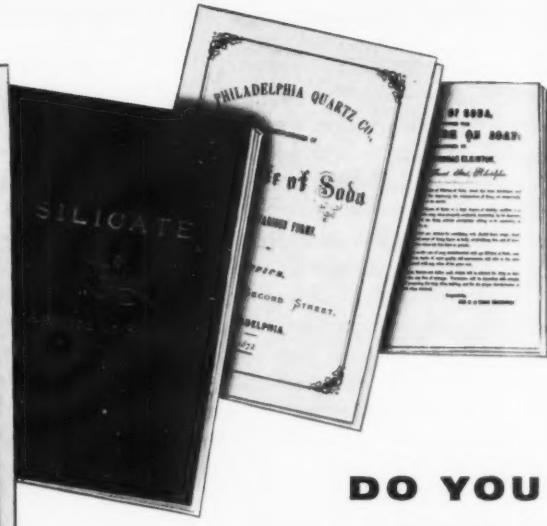




Other Phila. Quartz Co.,
11 South Front Street, Philadelphia.

Two publications call the attention of the Soap Makers of the United States to their SILICATE OF SODA, for the improvement of the manufacture of Soap.

The detergent properties of Silicate of Soda are now almost universally known, and although of comparative recent use in this country, the benefits of Germany have for many years utilized them, and of its valuable character are well known.



**DO YOU
KNOW
PQ SILICATES
OF SODA?**

*... reliable synthetic
detergent builders*

From the time silicate builders were added to our own soaps (1858), research into the detergent values of the soluble silicates has been continued. With the modern synthetic detergents, again PQ silicates are used to increase detergency and to obtain the added advantage of protecting metals from corrosive attack.

A vast fund of silicate detergent knowledge has been consistently available—our first printed folder "Silicates of Soda For the Improvement of the Manufacture of Soap" appeared in 1864. Do you have copies of current PQ publications on soluble silicates in soap and modern detergents? Check any of the following which is of interest to you.

The Value of Silicate of Soda as a Detergent
Phase Study of Commercial Soap-Alkaline Electrolyte-Water Systems
A Phase Study of Sodium Palmitate-Alkaline Electrolyte Water Systems
Silicates in Soaps
Solubility Study of an Aqueous Potassium Laurate-Potassium Silicate System
Potassium Silicates in Soaps
Silicate of Soda as a Detergent

PQ Silicates of Soda in Soaps and Modern Detergents
Suspending Action of Alkaline Electrolytes
on Ilmenite Black
Solubilization and Cosolvent Effect with Sodium Stearate
Alkyl Aryl Sulfonate Builder Mixtures
Viscosity of Potassium Soap-Potassium Silicate Mixtures
Viscosities and Solubilities of Synthetic Detergent Mixtures Containing Soluble Silicates
Silicates as Corrosion Inhibitors in Synthetic Detergent Mixtures



PHILADELPHIA QUARTZ COMPANY
1152 Public Ledger Building, Philadelphia 6, Pa.

Associates: Philadelphia Quartz Co. of Calif. Berkeley & Los Angeles, Calif., Tacoma, Wash.; National Silicates Limited, Toronto, Canada
Distributors in over 65 cities

TRADEMARKS REG. U. S. PAT. OFF.

PQ WORKS: ANDERSON IND., BALTIMORE, MD., BUFFALO, N.Y., CHESTER, PA., JEFFERSONVILLE, IND., KANSAS CITY, KANS., RAHWAY, N.J., ST. LOUIS, MO., UTICA, ILL.

Sales of Liquid Detergents Rise Sharply

An increase of 82 percent in the tonnage sales of liquid synthetic detergents during the first nine months of 1956 highlights the most recent sales census published by the Association of American Soap and Glycerine Producers, Inc. Sales of liquids for the first three quarters in 1956 rose to 196,872,000 pounds from 106,936,000 pounds sold during the corresponding period in 1955. However, syndet based liquid shampoos dropped 4.4 percent. Roughly, 80 percent of all liquids are sold in small package form, which places the bulk of the sensational increase in the household field.

The census, a collation of reports from 74 companies, shows total sales of soap and synthetic detergents in the first three quarters of 1956 amounting to 3,053,796,000 pounds valued at \$702,203,000 compared with 2,804,005,000 pounds and \$656,649,000 for the first nine months of 1955. This represents an 8.9 percent increase in tonnage and 6.9 percent rise in dollar volume.

Sales of synthetic detergents, solid and liquid, represent 67 percent of the total market with sales of 2,064,507,000 pounds valued at \$460,640,000 in the first nine months of 1956. This is a tonnage increase of 18.2 percent and a dollar increase of 13.1 percent over the 1,746,824,000 pounds and \$407,223,000 reported in 1955. Solids accounted for 1,869,635,000 pounds and \$381,496,000 compared with 1,639,888,000 and \$354,728,000 in the first three quarters of the previous year, an increase of 14 percent and 7.5 percent, respectively.

In the third quarter of 1956 the total sales of synthetics amounted to 688,196,000 pounds valued at \$157,979,000. This is an increase of one percent over the preceding quarter of 1956 in tonnage and of 4.3 percent in dollars. Compared with the third quarter of 1955 these figures represent an

increase of six percent in tonnage and of 3.4 percent in dollar value. Liquids in the third quarter of 1956 amounted to 64,800,000 pounds valued at \$26,049,000. Tonnage-wise, this represents a drop of 1.9 percent from the second quarter of 1956 and a growth of 74.7 percent from the sales reported in the third quarter of 1955. The dollar value of liquid syndet sales in the third quarter of 1956 has dropped 1.4 percent from the second quarter of 1956 and risen 35.4 percent from the third quarter of 1955. Sales of solid synthetic detergents in the third quarter of 1956 totaled 623,396,000, worth \$131,930,000, a growth of 1.2 percent and 5.5 percent, respectively, from the preceding quarter and up 1.8 percent in tonnage but down 1.2 percent in value from the figure reported for the third quarter of 1955.

Sales of soaps, solid and liquid, during the first nine months of 1956 amounted to 989,289,000 pounds valued at \$241,563,000 compared with \$249,426,000 in the

corresponding period of 1955. Soap sales dropped six percent in tonnage and three percent in dollar value.

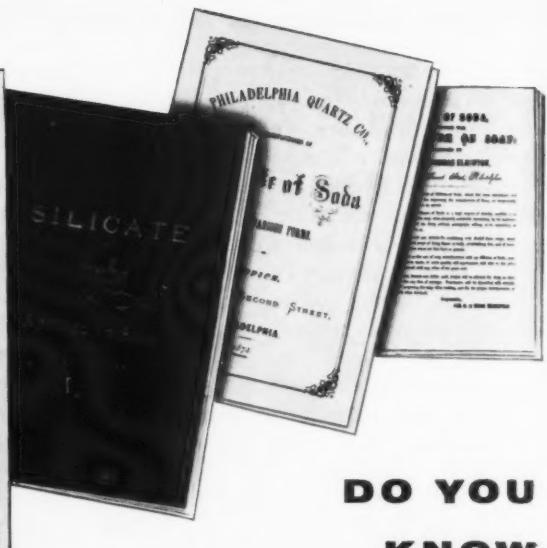
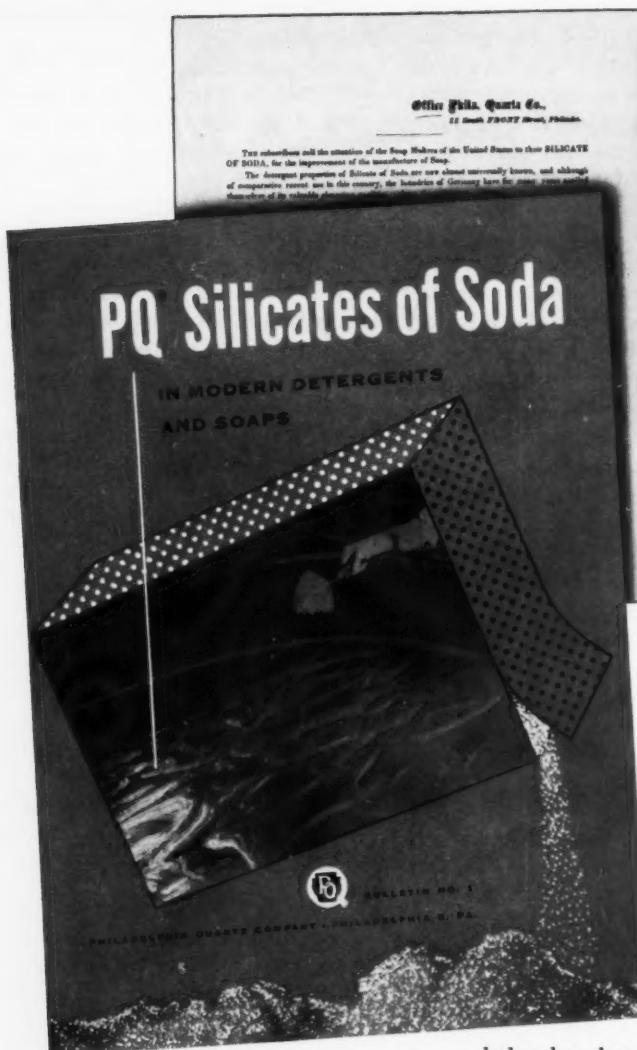
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In the third quarter of 1956, total soap sales amounted to 339,588,000 pounds valued at \$87,459,000. Tonnage-wise, soap sales in the third quarter rose one-half percent over the second quarter of 1956 but dropped 14.6 percent against the third quarter of 1955. Solid soaps in the third quarter of 1956 accounted for 339,588,000 pounds, worth \$87,459,000, an increase in tonnage of 1.5 percent over the second quarter of 1956 but a 14.2 percent drop for the corresponding quarter of 1955. Sales

Total soap and detergents sales reported by AASGP members in the first nine months of 1956.

	Pounds	Dollars
Soaps other than liquid.....	963,003,000	235,774,000
Liquid soaps	3,282,000*	5,789,000
Total value	241,563,000	
Bar toilet soaps, incl. mechanics.....	389,782,000	122,035,000
Yellow and other than white laundry bars.....	41,099,000	4,795,000
White laundry bars.....	131,447,000	23,652,000
Soap chips and flakes, pkgd.....	45,975,000	12,929,000
Soap chips and flakes, bulk.....	79,354,000	9,238,000
Soap, sprayed, pkgd.....	155,133,000	38,380,000
Soap, sprayed, bulk.....	68,229,000	7,852,000
Shaving soaps	2,709,000	1,797,000
Shaving cream	11,053,000	10,437,000
Paste and jelly soaps.....	11,483,000	1,546,000
Washing powders, pkgd.....	3,060,000	307,000
Washing powders, bulk.....	11,671,000	956,000
Hand pastes	4,735,000	605,000
Hand powders	6,027,000	1,006,000
Liquid soaps, other than pkgd. shampoos.....	3,160,000*	4,888,000
Shampoo, pkgd.....	122,000*	901,000
Misc. or "other" soaps.....	1,276,000	239,000
Detergents solid	1,869,635,000	381,496,000
Detergents, liquid	194,872,000	79,144,000
Total	2,084,507,000	460,640,000
Detergents, solid, other than shampoo, pkgd.....	1,674,318,000	355,865,000
Detergents, solid, other than shampoo, bulk.....	182,312,000	17,394,000
Detergent, liquid, other than shampoo, pkgd.....	20,842,000*	66,015,000
Detergent, liquid, other than shampoo, bulk.....	2,696,000*	3,322,000
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*... reliable synthetic
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Solubility Study of an Aqueous Potassium Laurate-
Potassium Silicate System
Potassium Silicates in Soaps
Silicate of Soda as a Detergent

PQ Silicates of Soda in Soaps and Modern Detergents
Suspending Action of Alkaline Electrolytes
on Ilmenite Black
Solubilization and Cosolvent Effect with Sodium Stearate
Alkyl Aryl Sulfonate Builder Mixtures
Viscosity of Potassium Soap-Potassium
Silicate Mixtures
Viscosities and Solubilities of Synthetic Detergent
Mixtures Containing Soluble Silicates
Silicates as Corrosion Inhibitors in Synthetic
Detergent Mixtures



PHILADELPHIA QUARTZ COMPANY
1152 Public Ledger Building, Philadelphia 6, Pa.

Associates: Philadelphia Quartz Co. of Calif. Berkeley & Los Angeles, Calif., Tacoma, Wash.; National Silicates Limited, Toronto, Canada
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TRADEMARKS REG. U.S. PAT. OFF.

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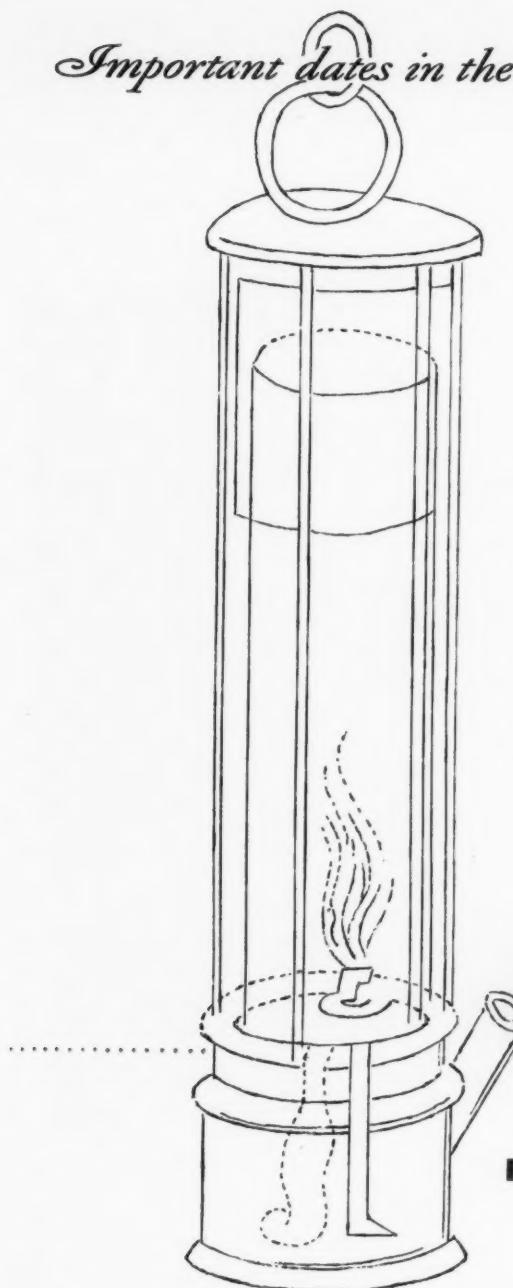
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*Expressed in gallons

Important dates in the History of Industrial Progress



1816



In mining...

For English coal miners whose output fueled the Industrial Revolution, Sir Humphry Davy's invention of the miner's safety lamp greatly lessened the hazards of their occupation. Fewer mine disasters meant more coal for Britain's infant industries.

In the history of fats and waxes

GROCO 55 — TRIPLE PRESSED STEARIC ACID

Titre	54.5°-55.2°C.
Titre	130.1°-131.4°F.
Color 5 1/4" Lovibond Red	0.5 max.
Color 5 1/4" Lovibond Yellow	1.5 max.
Unsaponifiable	0.05% max.
Saponification Value	208 - 212
Acid Value	207 - 211
Iodine Value (WIJS)	4.0 max.

Chevreul, who gave us our modern concept of fatty substances, observed early in his work that the solid acid isolated from mutton tallow had a higher M.P. than that obtained from pork fat. This observation culminated in the preparation of stearic acid in 1816. Since that time stearic acid has become a vital raw material for many products, including candles, cosmetics, buffering compounds, textile softeners, food emulsifiers and pharmaceuticals.

In 1837, A. Gross & Company entered the infant fatty acid field and has since pioneered in the improvement of refining techniques for these materials. Specifications for GROCO 55 — TRIPLE PRESSED STEARIC ACID show at a glance the high purity and stability characteristics which have been built into the best stearic acids of today.

Send for samples and catalog "Fatty Acids in Modern Industry."

A. GROSS & COMPANY

295 Madison Avenue, New York 17, N. Y.

Factory: Newark, N. J.

Distributors In Principal Cities

Manufacturers Since 1837

of liquid soap in the third quarter under review were reported at 7,712,000 pounds valued at \$1,746,000. Compared with the second quarter of 1956 this is a 25.9 percent drop in tonnage and a 28.4 percent drop in value. Against the third quarter of 1955 liquid soap sales are down 27.9 percent in tonnage and 19.4 percent in dollar value.

Sales of shampoos in both categories show a strange trend. In the first nine months of 1956, 68.7 percent less soap shampoos were sold than in the corresponding period of 1955. But detergent-based shampoos also dropped 14.4 percent.

— ★ —

Victor To Expand

Victor Chemical Works, Chicago, recently announced that it is negotiating for a large industrial site in that city to expand its manufacturing facilities. Included in the expansion is a new phosphate salts plant which will give the firm increased capacity for the phosphates it supplies the detergent industry.

— ★ —

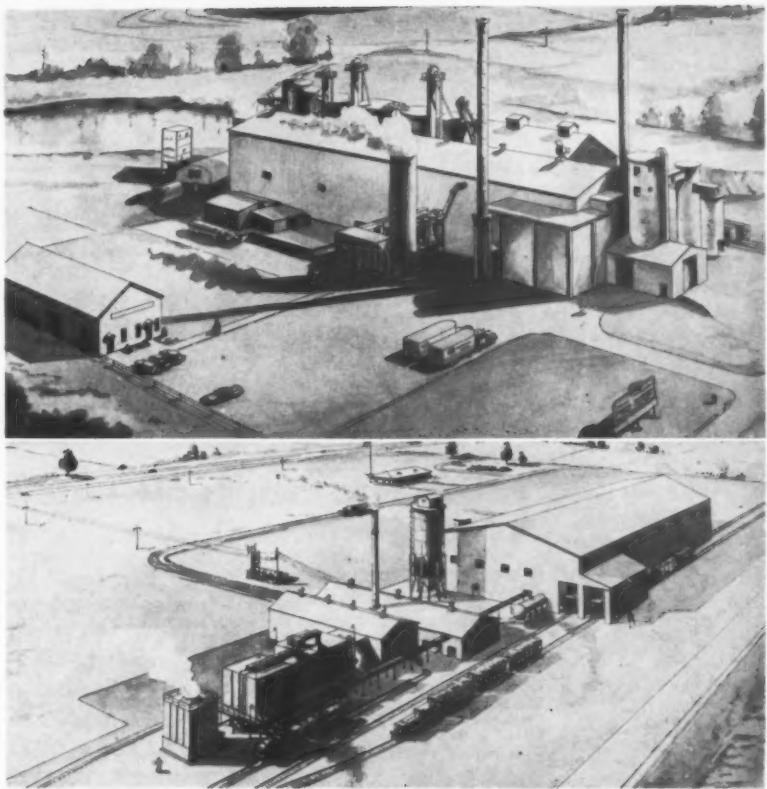
New Hillyard Building

Hillyard Chemical Co., St. Joseph, Mo., manufacturer of floor maintenance products, has opened a new, six story general office building in that city, it was announced recently. Dedication ceremonies took place during the firm's 50th anniversary celebration held in

New six story general office building of Hillyard Chemical Co., St. Joseph, Mo., was opened this month in connection with firm's 50th anniversary.



JANUARY, 1957



New sodium phosphate plants of Shea Chemical Corp., Jeffersonville, Ind. Top photo is of new plant at Adams, Mass., where a new sodium phosphate unit has been added to existing facilities and utilizes the thermal phosphoric acid plant and various dryers, milling machines and storage tanks. First plant in mid-south and southwest for production of sodium phosphates and thermal phosphoric acid is new Shea unit in Dallas.

early January. The new structure will contain the executive offices of the three Hillyard companies and foreign trade offices. The former office space will be transformed into manufacturing facilities. In addition to the St. Joseph unit, Hillyard operates plants in Passaic, N. J., and San Jose, Calif.

Sewage Foam Control

A foam control agent designed for sewage disposal plants using the activated sludge aeration method was introduced recently by Fine Organics, Inc., New York. "Foamwilt" is said to be effective in a concentration of one-half part per million gallons of sewage. The product retains low viscosity at 0°F. which permits feeding by slight pressure in exposed pipes even in winter. Economy and ease of application are claimed for "Foamwilt" which does not only kill foam but inhibits its formation.

Fine Organics has received contracts to supply "Foamwilt" to the New York City Department of Public Works and to Nassau County for their sewage disposal plants, according to Nicholas M. Molnar, the firm's president.

In addition to sewage plants potential users of the product include paper and paperboard manufacturers.

CHLORDANE VERSATILITY

Means More Profits For You

Because Chlordane controls ALL these common insects:

Ants
Armyworms
Blister Beetles
Boxelder Bug
Brown Dog Tick
Cabbage Maggot
Carpet Beetles
Cattle Lice
Chiggers
Cockroaches
Crickets
Cutworms
Darkling Beetles
Dog Mange

Earwigs
Fleas
Flies
Grasshoppers
Household Spiders
Japanese Beetle Larvae
Lawn Moths
Lygus Bugs
Mole Crickets
Mosquitoes
Onion Maggot
Onion Thrips
Plum Curculio
Sarcoptic Mange

Seed Corn Maggot
Sheep Ked
Silverfish
Sod Webworms
Southern Corn Rootworm
Strawberry Crown Borer
Strawberry Root Weevils
Sweet Clover Weevil
Tarnished Plant Bug
Termites
Ticks
Wasps
White Grubs
Wireworms
...and many others.

**Chlordane's wide range insect control means more uses
for each formulation. Also . . .**

- ✓ LOWER PRODUCTION COSTS
- ✓ LESS MONEY IN INVENTORIES
- ✓ SIMPLIFIED MERCHANDISING AND SELLING
- ✓ CONCENTRATED SALES PROMOTION EFFORTS

CASH IN ON CHLORDANE ACCEPTANCE

Chlordane is the insecticide that's nationally accepted. Chlordane's effectiveness has been widely proved by experiment station tests and 10 years of field use throughout the country.

Take advantage of the advertising, promotion, and acceptance of Chlordane . . . push Chlordane in 1957!



VELSICOL CHEMICAL CORPORATION

REPRESENTATIVES IN PRINCIPAL CITIES

General Offices and Laboratories 333 East Grand Avenue, Chicago 1, Illinois
Export Division 350 Fifth Ave., New York 1, N.Y.

Sugar Based Detergents Available, Soon

BERKELEY CHEMICAL CORP., Berkeley Heights, N. J., expects to offer sugar-based surfactants in pilot plant quantities within the next three or four months. Robert J. Milano, Berkeley president, in making this announcement recently said that his firm had entered into a licensing agreement with the Sugar Research Foundation, New York, for the purpose of operating under the foundation's patent application covering sucrose esters.

Non-ionic surface active agents of good emulsifying and detergent properties can be derived from sugar and tallow fatty acids. These sugar esters are inexpensive to make compared with other non-ionics which have been relatively high in price. Odorless, tasteless, non-toxic, and non-irritating, these compounds are among the few non-ionic surface active agents available in solid form.

Like other non-ionics the sugar esters have a wide range of compatibility and can be combined with anionic syndets and soaps, and with cationics. They are only fair wetting agents but have very good rinsing properties because they are less tenaciously absorbed than anionics or cationics.

Their non-toxic and non-irritating properties suit the sugar esters especially for use in the food, pharmaceutical and cosmetics fields. In the washing of fruits, vegetables and other foodstuffs prior to processing or packaging, traces of some detergent can introduce taste and corrosion problems. Sugar based detergents are claimed to have no such adverse effects. Food processing equipment can be cleaned with these compounds without any concern over possible detrimental effects of detergent residues. Since they are non-toxic, digestible, and tasteless, sugar esters are suitable for incorporation as emulsifiers in foods and oral drugs. Some of the irritation and soreness produced by injections may be eliminated by the

use of sugar-based emulsifiers in injectable drugs.

Application as detergents in toothpastes and tooth powders; as base for shaving preparations and as shampoo ingredients, and in bar soaps has been suggested.

Sugar esters may have potential uses as non-toxic emulsifiers in animal and poultry feed. That these compounds are nutritional and do not inhibit the growth of bacteria is considered unusual. Their use does not raise the sewage disposal problem introduced by other surfactants.

Information concerning sugar esters is available from Millmaster Chemical Corp., 295 Madison Avenue, New York 17, the exclusive sales agent for Berkeley Chemical Corp.

Percy J. Leaper Dies

Percy J. Leaper, 57, director of research and development of Fels & Co., Philadelphia, died Nov. 26, in that city after an illness of several months.

A graduate of the University of London in 1920, Dr. Leaper joined Fels in 1953. He previously had been associated with Allied Chemical & Dye Corp., New York, where he served as manager of new product research in the general chemical division.

Dr. Leaper was employed as assistant manager of the fine or-

Percy J. Leaper



ganic chemicals division of Eastman Kodak Co., Rochester, N. Y., from 1924 to 1926. He became manager of the fine organic chemicals division of U. S. Rubber Co., New York, in 1926 and remained there until he joined Allied Chemical & Dye in 1944. Dr. Leaper represented the U. S. Government's chemical warfare service as a consultant during investigation of the German chemical industry in 1945, and performed the same service as an investigator for the Department of Commerce in 1947.

AASGP Membership Roster

The Association of American Soap & Glycerine Producers, Inc., 295 Madison Ave., New York 17, has just issued its annual membership list. In addition to listing all AASGP members, the 40-page bulletin contains a copy of the association's by-laws, a listing of its officers and directors, and a detailed breakdown of its several committees. Also included is a section on the association's present activities.

Diversey Names Button

Bland B. Button has been named vice-president in charge of sales of Diversey Corp., Chicago, it was announced recently by Herbert W. Kochs, chairman. Mr. Button succeeds W. E. Noyes, who last month announced his semi-retirement. In his new post, Mr. Button will supervise the firm's 250-man selling force. He formerly was general sales manager, responsible for the sales and office operations of Diversey's eight regional sales divisions. Mr. Button has been with the company for 17 years.

More Carbon Bisulphide

Cornwall Chemicals, Ltd., Montreal, recently announced commercial production of carbon bisulphide from expanded facilities at its Cornwall, Ont., plant. The expansion was the third to be made at the plant since 1945. Cornwall is owned jointly by Canadian Industries, Ltd., and Stauffer Chemical Co., New York.

ALKYL ARYL SODIUM SULPHONATES
based on tetra propylene polymer

NANSA* brand

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80% dodecyl benzene sodium sulphonate
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built alkyl aryl sodium sulphonate liquid
- * **NANSA U. C. POWDER**
bead type totally spray dried synthetic detergents containing molecularly condensed phosphates, carboxy-methyl-cellulose, silicates, foam builders, etc.

HIGHER ALIPHATIC ALCOHOLS
by high pressure hydrogenation

LAURYL ALCOHOL and homologues
by vacuum fractionation

SODIUM LAURYL SULPHATE
spray dried powder to U.S.P. & B.P.
specification

TRIETHANOLAMINE LAURYL SULPHATE
for shampoos, toilet preparations
and liquid cleansers

SODIUM LAURYL SULPHATE NEEDLES
non-dusty, for toothpastes,
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Manufacturers of

ORGANIC DIVISION: fatty alcohol sulphates (EMPICOLS), emulsifiers (EMPILANS), self-emulsifying waxes (EMPIWAXES), alkyl aryl sulphonates (NANSA) and other detergent bases, additives and emulsifiers in powder, paste and liquid forms.

INORGANIC DIVISION: phosphoric acid and complex phosphates.



Geoffrey R. Ward



Bruce L. Garner

Ward, Garner to White King

Geoffrey R. Ward and Bruce L. Garner have joined the research staff of Los Angeles Soap Co., Los Angeles, it was announced last month by George W. Busby, manager of the firm's "White King" soap plant.

Dr. Ward will assume the position of director of research, succeeding Harvey C. Bennett, who

has been made technical director. Prior to joining Los Angeles, Dr. Ward was associated with E. I. du Pont de Nemours, & Co. Wilmington, Del., and General Aniline & Film Corp., New York. His work included research on surfactants, detergents, creams, fats, oils, and the skin. Dr. Garner formerly was a member of the research team at California Research Corp.

CSMA Buyers Guide

Chemical Specialties Manufacturers Association, Inc., 50 East 41st St., New York 17, recently announced publication of its 1957 buyers guide, "Vendors to the Trade." The guide, in its second edition, lists material supplies offered to the trade by CSMA members. It consists of two sections, an alphabetical classified listing of members by products and services and an alphabetical listing of member companies. The latter section also includes a further description of products and services.

Harold F. Merritt Retires

Retirement of Harold F. Merritt as vice-president in charge of sales of Solvay Process Division of Allied Chemical & Dye Corp., New York, effective Dec. 31, was announced last month by Carlton Bates, division president. Mr. Merritt is succeeded by Lester B. Gordon, a vice-president in the sales department.

Mr. Merritt had been associated with Solvay for 43 years and

had been vice-president of sales since 1931. Mr. Gordon joined Solvay in 1915. He subsequently has served as western sales manager; assistant director of sales; director of sales; and as a vice-president.

Witco Acquires Ultra

Acquisition of Ultra Chemical Works, Inc., Paterson, N. J., was announced recently by Witco Chemical Co., New York. Ultra, manufacturer of private label detergents, detergent additives, and related synthetic organic chemicals, will be operated as a wholly-owned subsidiary with no changes in personnel. Ultra has additional production facilities in Chicago, Joliet, Ill., and Hawthorne, Calif. Witco makes a wide range of basic chemicals.

New Borax-Potash Location

Two divisions of United States Borax & Chemical Corp., Los Angeles, will move to new and enlarged offices at 50 Rockefeller Plaza, New York, about June 1, it was announced recently. The new location will serve as headquarters for Pacific Coast Borax Co. and United States Potash Co., and as eastern sales offices of 20 Mule Team Products Division, Los Angeles. Pacific Coast Borax is now located at 100 Park Avenue, while United States Potash presently has headquarters at 30 Rockefeller Plaza.

Wyandotte Names Compton

J. W. Compton has been advanced to the position of supervisor of industrial applications research in the research and engineering division of Wyandotte Chemicals Corp., Wyandotte, Mich., it was announced recently. Mr. Compton was formerly head of the analytical research section. He will be succeeded in this post by R. J. Quentin, a member of the staff since 1951.

Harold F. Merritt

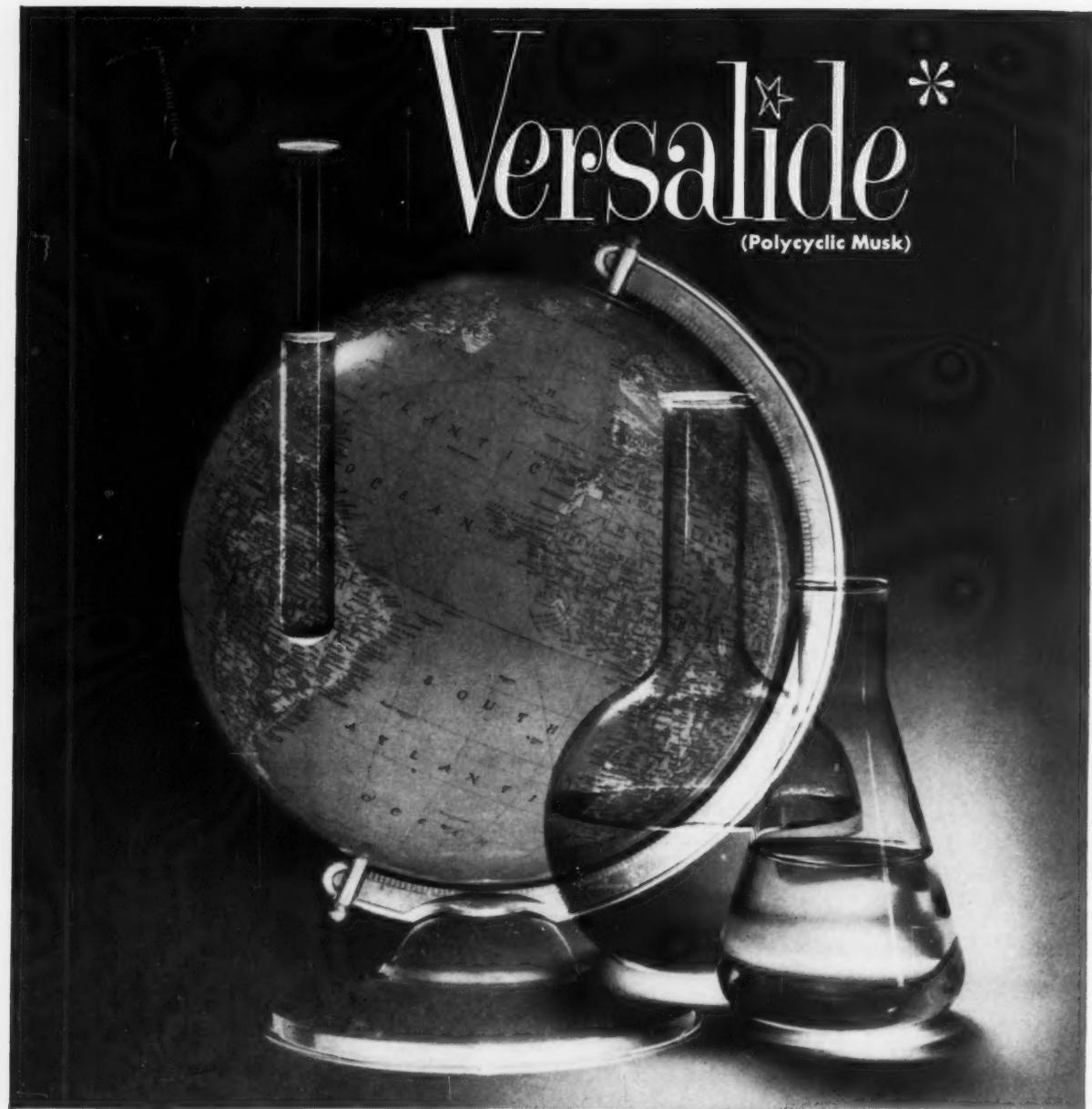


Lester B. Gordon



Versalide*

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Within a year of its introduction, *Versalide*, Givaudan's outstanding new polycyclic musk, has met with international acceptance! Perfumers throughout the world of fragrance have recognized in its versatility and unique combination of advantages a whole new field of opportunity for creative perfumery.

Versalide lends to a perfume all the enhancement, sweetness, strength, fixation and blending properties expected only from the macrocyclic musks, and yet at a fraction of their cost.

A pure chemical body, not a mixture, *Versalide* is economical—stable to light, heat, air, alkali; and does not discolor soap. And its versatility is practically unlimited!

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SOCMA Re-Elects Hooker

R. Wolcott Hooker, vice-president of Hooker Electrochemical Co., Niagara Falls, N. Y., was



R. Wolcott Hooker

re-elected for a second term as president of the Synthetic Organic Chemical Manufacturers Association at the 35th annual meeting held at the Biltmore Hotel, New York, Dec. 3.

John H. Hildring, president of General Aniline and Film Corp., New York, was re-elected first vice-president, while Frederick Dehls, executive vice-president of Benzol Products Co., Newark, N. J., was renamed second vice-president. C. K. Egeler, eastern sales manager of Pigment, Color and Chemical Division, Sherwin-Williams Co., Cleveland, was elected treasurer succeeding J. Robert Fisher, president of Gamma Chemical Corp., New York.

Elected to the association's board of governors were N. C. Babcock, vice-president, Carbide and Carbon Chemicals Co., New York, and J. W. Orelup, president, Patent Chemicals, Inc., Paterson, N. J. Dr. Elvin H. Killheffer and Dr. August Merz, past presidents of SOCMA, were re-elected honorary members of the board for one year terms.

— ★ —

CIBS Elects Officers

The following officers were elected by the Cosmetic Industry Buyers and Suppliers Association at the monthly meeting held at Toots Shor's Restaurant, New York, Dec.

6. George Kaempkes, Pacquin, Inc., president; William Jaeger, Park & Tilford, first vice-president; John Duncan, Hazel-Atlas Glass Co., second vice-president; Allen Stewart, Parfait Promotional Packaging Co., recording secretary; J. William Voit, George Lueders & Co., corresponding secretary; Lamson Scovill, Scovill Mfg. Co., treasurer. Elected to the board of directors were Jack P. Jordan, Crown Cork & Seal, Inc. and James E. Beyer, Lehn & Fink Products Corp.

— ★ —

Tombarel 20 Years in U.S.

Tombarel Products Corp., 725 Broadway, New York City essential oil firm, celebrated its 20th anniversary on January 1. The American firm was founded in the hundredth anniversary year of its French parent company, Tombarel Freres, Grasse, which had its beginning in 1837. Started by L. G. Zollinger and Howard Miller, the New York company was headed by Mr. Zollinger as president until his death in 1948. He was succeeded by Dr. Paul Muhlethaler, current president of Tombarel Products. Mr. Miller is still active in the firm, which handles the natural fragrance products of its French parent company.

Francois Goby, president of Tombarel Freres, visited the U. S. last month to confer with Dr. Muhlethaler on current trends in the American essential oil market and to renew contacts with the firm's customers in the United States.

— ★ —

Bowen Celebrates 30th Yr.

Bowen Engineering Co., North Branch, N. J., celebrated its 30th anniversary with a dinner and a surprise party for its founder William Spencer Bowen. The celebration was held at the Raritan Valley Country Club on Dec. 18. Mr. Bowen retired as president in 1946, but has remained active as director of research and as a member of the board of directors. For the past ten years, the company has been under the direction of Ralph T. Reeve.

Seymour I. Barowsky Dies

Seymour I. Barowsky, 39, vice-president in charge of sales of Adell Chemical Co., Holyoke, Mass.,



Seymour I. Barowsky

died Dec. 28 during an operation at Pratt Institute in that city. The Adell concern, of which his father, Jacob L. Barowsky, is president and treasurer, manufactures "Lestoil" liquid detergent.

Mr. Barowsky was graduated from Drew Academy and the University of Vermont. He served for three years in the Army during World War II. Prior to joining Adell, Mr. Barowsky was manager of the chemical specialties division of E. F. Drew & Co., New York.

Surviving besides his father are his widow, Dorothy; two children, Norma Jean and Gerald; his mother and two sisters.

— ★ —

Willits to Pennsalt

W. Cooper Willits has been appointed assistant to the president of Pennsylvania Salt Manufacturing Co., Philadelphia, it was announced recently by William P. Drake, president. In his new capacity, Mr. Willits will assist with the coordination of Pennsalt's expansion program, with negotiation of investments and the evaluation of internal appropriation requests. Mr. Willits was formerly associated with Kidder, Peabody & Co., New York, as manager of its Philadelphia statistical and research branch.

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Resistance to dirt pick-up

Resistance to water spotting

**EPOLENE "E", Eastman's new, synthetic, emulsifiable wax,
replaces carnauba and other hard waxes in your polishes.**

Epolene "E" is a low-viscosity, low-molecular-weight, emulsifiable polyethylene wax, highly compatible with other waxes and exceptionally uniform in quality. It is hard and tough, comparing favorably with high-priced natural waxes such as carnauba. It produces water emulsion polishes that exhibit high gloss, excellent flow-out properties, and outstanding scuff and dirt pick-up resistance. It resists water-spotting, as well as the attack of many chemicals.

In addition to sales features, Epolene also offers you manufacturing advantages. Pellets of this material are easily handled and melt rapidly for

blending. Epolene is dependably uniform, maintaining its low viscosity and acid number of 8-13 consistently, shipment after shipment. Thus, by standardizing on Epolene, you can standardize your formulas and procedures.

Epolene is also available in a non-emulsifiable type—Epolene "N"—for use in paste polishes. Eastman will be glad to assist you in adapting your formulations to use either of these new waxes. For samples and more information, write: EASTMAN CHEMICAL PRODUCTS, INC., subsidiary of Eastman Kodak Company, Chemicals Division, KINGSPORT, TENNESSEE.

Epolene

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SALES OFFICES: Eastman Chemical Products, Inc., Kingsport, Tennessee; New York City; Framingham, Mass.; Cincinnati; Cleveland; Chicago; St. Louis; Houston. West Coast: Wilson Meyer Co., San Francisco; Los Angeles; Portland; Salt Lake City; Seattle.

ADACIOM Elects Saeks

A. L. Saeks, Puro Co., St. Louis, has been elected president of the Associated Drug and Chemical Industries of Missouri, it was announced recently. Other officers elected for 1957 include E. Ted Mann, Dow Chemical Co., first vice-president; Leo G. Peck, Peck Products Co., second vice-president; Robert F. Walsh, Harry A. Baumstark & Co., third vice-president; Starling C. Gansner, Cole Chemical Co., secretary; and J. Louis Lanz, private consultant, treasurer.

Elected to the executive committee were George W. Barth, Owens-Illinois Glass Co.; William Carpenter, Columbia-Southern Chemical Corp.; Robertson B. Clark, Mallinckrodt Chemical Works; G. Kenneth Robins, G. S. Robins & Co.; W. D. Vesey, Merck, & Co.; and Phil Yates, Marvin Yates Co.



Hercules Acquires Huron

Acquisition of Huron Milling Co., Harbor Beach, Mich., was announced recently by Hercules Powder Co., Wilmington, Del. Huron will be operated as a division of Hercules' Virginia Cellulose department. Huron processes wheat flour into wheat starch and proteins for food supplements and natural food flavorings.

Robert M. Farr, who recently retired as Huron president, will remain with Hercules in an advisory capacity. Carl S. Smith, former vice-president in charge of manu-



Newly elected officers of Associated Drug and Chemical Industries of Missouri. A. L. Saeks, Puro Co. in front row to right of microphone is newly elected president.

facturing and research, has been appointed plant manager of the new division, while Charles A. Grant has been named sales manager. Mr. Grant will be assisted in this assignment by Glenn H. Freeman and R. S. Shumard.

announced recently by W. H. Cochrane, division general manager. In his new post, Mr. Bronson will be responsible for the development of new Lever industrial products and new uses for existing industrial products. He was formerly market development manager of Tennessee Corp., Atlanta, Ga.



Lehn & Fink Buys Ogilvie

Lehn & Fink Products Corp., New York, has purchased Ogilvie Sisters, New York, manufacturer of more than 70 shampoos, rinses, and other hair treatment items, it was announced recently by Edward Plaut, president of Lehn & Fink. Established in 1910, Ogilvie will be placed under the management of the firm's Dorothy Gray sales division. Manufacturing will be transferred from Ogilvie's New York factory to Lehn & Fink's Bloomfield, N. J., plant. The three Ogilvie sisters, Clara O. MacInnis, Mabel O. Carter and Georgina O. Tweedle will be retained as consultants to Dorothy Gray.

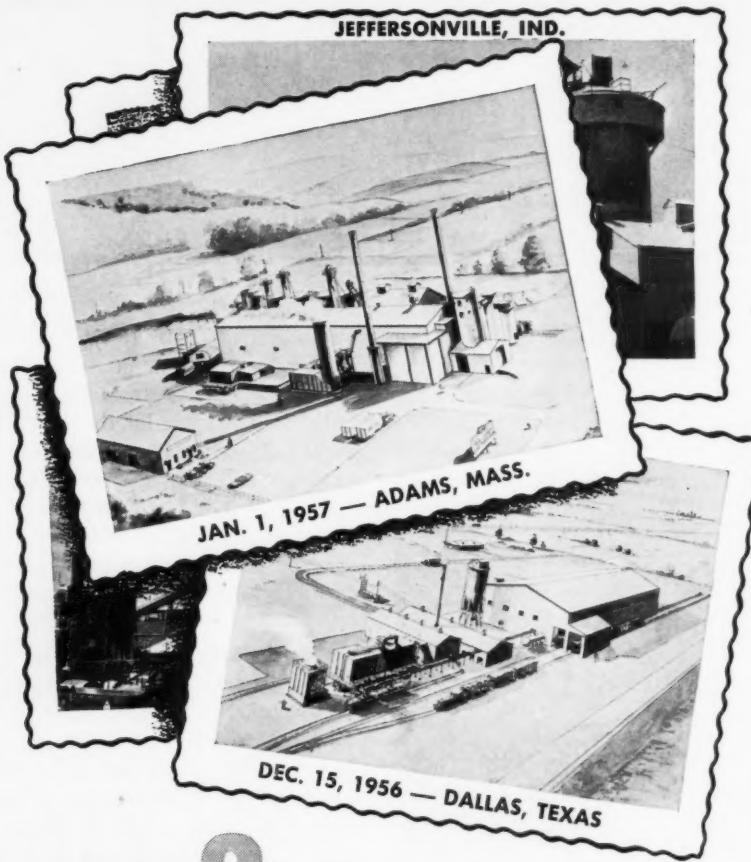
Lever Appoints Bronson

Charles H. Bronson has been appointed development manager of the industrial division of Lever Brothers Co., New York, it was

Seated on dais at luncheon of meeting of scientific section of the T.G.A. held at the Waldorf-Astoria Hotel, New York, Dec. 12 are: (left to right) E. P. Morish, Firmenich & Co.; Dr. F. J. Austin, honorary chairman of section; H. D. Goulden, scientific director of T.G.A.; Pierre Harang, Houbigant Sales Corp. and president of

T.G.A.; Orville Davenport, Avon Products, Inc., and chairman of section; Dr. Emil G. Klarmann, Lehn & Fink Products Corp., and vice-chairman of section; Alice Jakovics, Avon Products of Canada, Ltd.; Donald H. Kirby, John H. Breck & Co.; Joseph Kalish, Drug and Cosmetic Industry; and E. G. Helton, Procter & Gamble Co.





SHEA'S 2 NEW SODIUM PHOSPHATE PLANTS give you faster, better service!

Shea sodium phosphate production has more than doubled with new plants now in operation in Adams, Massachusetts and Dallas, Texas. These new plants combined with production at Jeffersonville, Indiana, and supported by increased phosphorus production at Columbia, Tennessee assure phosphate users of fast service—and equally important—*multiple* sources of supply in any emergency.

If you use phosphates—both high and low bulk density—count on Shea for products of unquestioned quality . . . in unfailing supply.

Elemental Phosphorus
Sodium Tripolyphosphate
Tetrasodium Pyrophosphate
Disodium Phosphate
Trisodium Phosphate
Sodium Hexametaphosphate
Phosphoric Acid, Food Grade
Phosphate Feed Solution



CHEMICAL CORPORATION
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Kay Joins Modern Sales

Modern Sales Co., New Orleans manufacturer of sanitary chemicals, has appointed Mark Kay as vice-president in charge of sales, it was announced recently by Walter Davis, Jr., president of both Modern Sales and the Malter Supply Co., New Orleans sanitary supply house.

Prior to joining the manufacturing firm, Mr. Kay was sales manager of the Bromm Chemical Co., Evansville, Ind. The newly-formed firm will offer promotional and sales help to sanitary supply distributors who handle its line of sanitary chemicals. Distributorships now are being assigned to sanitary supply jobbers throughout the nation, according to Mr. Davis.

New All-Purpose Cleaner

A new high-concentrate detergent for all-purpose cleaning was introduced recently by the International Chemical Co., Chicago. Called "Rev," the product is packaged in small polyethylene pouches.

Each plastic pouch contains the exact amount of cleaner needed for a given quantity of water. "Rev-PC 3" contains 31 grams and is designed for mixing with three gallons of water. "Rev-PC 4" contains 41 grams, the correct amount of detergent for four gallons of water.

The pouches are packed 12 to a package and a dozen packages come in a corrugated shipping carton. Further details regarding "Rev" may be obtained on request to the International Chemical Co., 3140 South Canal St., Chicago 16.



SOAP and CHEMICAL SPECIALTIES

Enjay Personnel Shifts

Enjay, Inc., New York, petrochemicals marketing firm, recently announced a series of personnel



J. D. Haworth

changes in its sales department. J. P. Haworth has been named manager of the newly-created eastern sales division, while H. C. Evans has been appointed Akron district manager.

In his new post, Mr. Haworth will supervise operations of the company's sales representatives in 19 states, including the New England area, the eastern seaboard states, West Virginia, Ohio and Michigan. Mr. Haworth was formerly manager of the butyl division. He joined Enjay in 1955 after 15 years with Esso Research Co., New York.

Mr. Evans will be responsible for Enjay's sales activities in Ohio, Michigan, western New York, western Pennsylvania and

H. C. Evans



The man who changed his oil!

First time it was strictly no-go. "Sorry," said the P.A...."price is fine but we're producing quality products from top-grade materials. No room for crude products here."

"But—" we said for the umpteenth time... but we had lost our audience. The P.A. was off and away.

Second time, the gimmick. "What's that?" said the P.A., pointing to the bottle of black sticky mess placed on his desk.

"You run your car with it," we said.

"Not at all," said the P.A., "I use gasoline of course."

"This gasoline," we told him, placing a second bottle on his desk, "is a carefully selected fraction of that crude oil... and this (producing a third bottle of light clear oil) is a carefully distilled Tall Oil Fraction which we think you can use."

"Tell me more," said the P.A. leaning back.

Third time it was the big welcome... and a question. "Say, can we buy our grade in tank trucks? Production and Sales are happy and costs are down. We're planning larger purchases."

Possibly your operation could benefit from a "change of oil"... for where unsaturated oils and fatty acids are needed, ACINTOL® Tall Oil Fractions are lower in cost and completely dependable in quality and supply. We'll be happy to furnish samples and technical assistance.

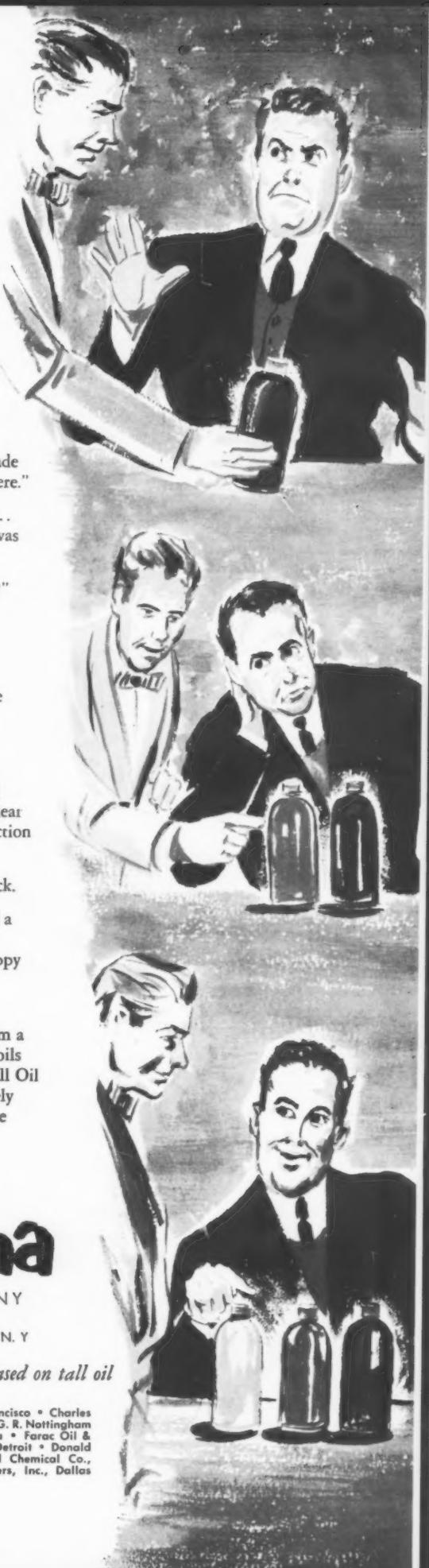
Arizona

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World's largest supplier of chemicals based on tall oil

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West Virginia. He formerly served at the firm's Tulsa and Akron sales offices. Prior to joining Enjay in 1947, Mr. Evans was associated with Esso Standard Oil Co., New York.

In other personnel shifts, Enjay named W. H. Peterson as butyl division sales manager; P. C. Richards as sales manager of the alcohol and chemicals division; and K. J. Nelson as manager of the special accounts division. Mr. Richards and Mr. Nelson were formerly assistant sales managers of

the alcohol and chemicals division. Mr. Peterson was assistant sales manager of the butyl division.

Record National Sales

Net sales of National Soap Dispenser Co., Los Angeles, reached an all-time high during 1956, it was announced recently by Albert B. Rubin, vice-president, at the firm's annual meeting of stockholders. National manufactures dispensers for soaps and waterless hand cleaners. According to Mr.

Rubin, National has just completed an expansion of shipping and production facilities which are designed to improve service.

Also at the meeting, the shareholders re-elected Edward Lane and Mr. Rubin as president and vice-president, respectively. Charles Lane was renamed secretary and sales manager.

Cosmetic Chemists

(From Page 85)

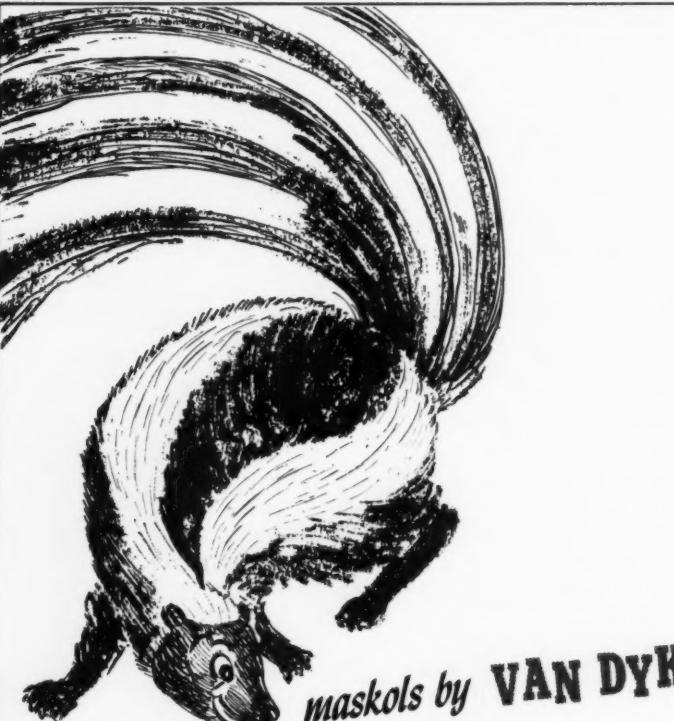
greatly reduced or entirely eliminated. Combinations of a polyoxyethylene ether with "Roccal" or "Hyamine", for instance, were found to exert no inhibiting influence on preservative activity. Tests with anionics showed no interference. Studies with ampholytes are currently in progress.

Aerosol Analysis

"**G**AS Chromatographic Analysis of Aerosol Products" by M. J. Root and M. J. Maury, G. Barr and Co., Chicago, was presented by Mr. Root and illustrated with a number of color slides. Gas-liquid chromatography came into being in 1941 and is, according to Mr. Root, tailor-made for the peculiar problems presented by qualitative and quantitative analysis of the components of the aerosol system. Mixtures of liquefied gases and low boiling liquids found in pressure packaged products are very hard to measure by conventional methods.

Gas-liquid partition chromatography can be used in the aerosol field for the following purposes: 1. Analysis of propellant mixtures, both chloro-fluorinated hydrocarbons and hydrocarbons; 2. Quality control of pressure packaged products; 3. Analysis of both liquid and gaseous phases of the product; 4. Determination of air in liquid and gaseous phases; 5. Determination of trace amounts of propellants in the atmosphere.

Essential components of gas-liquid partition chromatography instruments include: 1. Carrier gas;



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★ soaps	★ paints and varnishes
★ disinfectants	★ latex
★ insecticides	★ textiles
★ household cleaners	★ chemical specialties



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	2 min.	4 min.	6 min.	8 min.	10 min.	% Dead 24 hrs.
OTI	79	94	97	97	96	21
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Minneapolis 2, Minnesota 1207 Foshay Tower
Cleveland 14, Ohio 1321 National City Bank Bldg.
Wynnewood (Philadelphia), Pa. 308 E. Lancaster Avenue
Houston 25, Texas 1100 East Holcombe Blvd.

2. Flow controller; 3. Sample inlet, gas and liquid; 4. Chromatographic column, a. solid phase (carrier) and b. liquid phase; 5. Detector; 6. Recorder. Introduction of aerosol samples into the column requires development of special techniques. Such samples may be introduced as either liquid or gas. The liquid sample required ranges from .005 to .05 cc and the gas sample from one to 25 cc. The sample must pass through the

chromatographic column as a gas. Mr. Root stressed the availability of an ample range of instruments for use with this method of analysis and reported that the Barr organization uses a model of Beckman Instrument Co.

New Glass Containers

WILLIAM R. Prindle of Hazel-Atlas Glass Division of Continental Can Co., Wheeling, W. Va., reported on "New Developments

in Glass Containers." Investigations by modern techniques have helped to establish the role of surface flaws in the breakage of glass and means have been developed to minimize their effects. Very thin coatings of various materials have been applied to glass surfaces to make them less vulnerable. Dr. Prindle named some of these films and pointed out their respective virtues and disadvantages. Sulfur, for instance, gives a coat of poor appearance. Various waxes, siloxane sprays, and polyethylene have been tried for this purpose. Some of these films are susceptible to scratching, others do not retain a label, some undergo chemical changes. Certain water emulsion sprays of stearates and glycols and certain siloxane formulations have been found satisfactory and new labeling techniques have been evolved. Polyethylene forms one of the most versatile coating films and is non-toxic. Impact, internal pressure and thermal shock tests made before and after simulated service tests show the degree of protection offered by various coatings.

Resistance of glass to chemical attack has also been studied and much has been learned about effects of various products on chemical durability. Chemical treatments have been developed which increase the resistance of glass to chemical attack.

The field of colored glasses has not undergone many changes. The high temperatures applied to glass in the course of manufacture rule out organic coloring matter, thus greatly limiting the range. Gold and uranium, for instance, could produce attractive hues in glass, Dr. Prindle said. But factors limiting their use are self-evident. Apart from the esthetic angle, glass coloring plays an important part in the protection of photo-sensitive products against ultraviolet radiation. The amber bottle is one of the time-honored but not too attractive devices by which the pharmaceutical and other industries have always protected their product against spoilage. Much research has

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INDUSTRIAL WAXES



M. ARGÜESO & CO. INC.

Established 1908

been done on the screening effect of various colored glasses and Dr. Prindle showed graphs illustrating ultraviolet screening effects of amber, opaque, green, blue and other glass. Colored plastic coatings have largely taken over the part formerly played by pigments incorporated in the glass, both for product protection and appearance. Atomic radiation changes the color of glass, but appears not to affect the contents of a glass container.

Progress in container engineering and in glass handling have brought glass packages of lighter weight and increased strength. With modern manufacturing techniques it is possible to control the viscosity of glass so that thickness is placed where needed and the unnecessarily heavy shoulders and neck of the bottle have disappeared. Sharp contours are avoided and surface flaws and bubbles reduced to a minimum.

Development of the glass aerosol is largely based on improved glass chemistry and engineering and on the development of suitable coatings. Polyvinylchloride film is best for the glass pressure package because of its resilience and good appearance. The "Wheaton" process coats the aerosol bottle with a film of PVC which acts as a retaining skin if the bottle is shattered, eliminating all flying fragments. Hazel-Atlas and a number of other manufacturers have been licensed to use this method of shatterproofing glass containers.

"Chemical Applications for Ultrasonic Waves" by Ernest B. Yeager, Western Reserve University, Cleveland, indicated that instrumentation in this field is far ahead of practical applications. Sonochemical changes produced by the cavitation mechanisms set in motion by ultrasonics are only of laboratory interest because of poor yield. The promise for ultrasonics in industrial chemistry lies in the physical effects and their applications to processing. Physical effects include: production of colloidal suspensions in liquids; the degassing of liquids; the increase of heat

transfer and mass transport in gases and liquids; production of crystallization of various compounds.

Other papers presented at the meeting included: "Cosmetic Knowledge Through Instrumental Techniques" by Everett G. McDonough, Donald A. M. Mackay, and Murray Berdick of Evans Research and Development Corp., New York; "The Electron Microscope—A Tool for the Study of Hair", by W. L. Courchene, Procter & Gamble Co., Cincinnati; and "Gas Partition Chromatography.

Application to Essential Oils and Other Volatile Materials", by C. L. Teitelbaum, Battelle Memorial Institute, Columbus, O.

At luncheon, the 1957 officers were installed: Sabat J. Strianse, research director of Shulton, Inc., Clifton, N. J., was elected president of the society for the year 1957. President-elect for 1957 is James H. Baker, head of Gar-Baker Laboratories, Inc., and a charter member of the society. Robert A. Kramer of Evans Research and Development Corp. and Walter A.



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George G. Kolar, Kolar Laboratories, 1956 president of the Society of Cosmetic Chemists, with James H. Baker, Gar-Baker Laboratories, 1957 president-elect of the Society. Mr. Kolar becomes chairman of the executive committee and Sabbat J. Striane of Shulton becomes president.



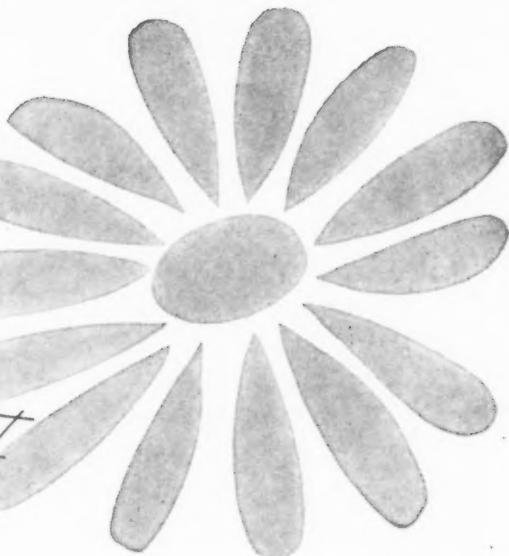
Taylor of Chesebrough-Pond's Inc., were reelected secretary and treasurer, respectively. Gabriel Barnett of Warner-Hudnut, Inc., and Savery F. Coneybear of Colgate-Palmolive Co. were reelected directors for a second term from a slate of six candidates. Retiring president George G. Kolar, Kolar Laboratories, Inc., joins the executive committee.

The eighth Society of Cosmetic Chemists Medal Award was presented to Miss Florence E. Wall,

TV star Warren Hull joins Arlene Dahl, motion picture actress and columnist in admiring Medal Award of the Society of Cosmetic Chemists, which has just been presented to Miss Florence E. Wall for her contributions to cosmetic sciences. Miss Wall is first woman recipient of the annual award.

consulting chemist, author and lecturer, at the dinner meeting. Hazel L. Kozlay and Dr. Marston L. Hamlin of American Home Products spoke about Miss Wall's career and her contributions in the cosmetics field. Stephen L. Mayham of the Toilet Goods Association acted as toastmaster and, George Kolar, president of the society, presented the medal. Arlene Dahl, film actress and beauty columnist, and Warren Hull, TV performer, paid tribute to the medalist.





The odor of CLEANLINESS

When it comes to the family wash, today's housewife demands above all else, that elusive and intangible "clean odor." What is it? Largely a psychological concept... however, certain carefully balanced combinations of perfume ingredients can give to a washday detergent that special "sunshine clean" quality. Furthermore, this desired fragrance will cling to the finished wash... if the perfume compound is properly formulated. In the D&O Industrial Odorants Laboratories, a complete group of such "washday fragrances" has been developed, not only for detergents but for blueing, starch and bleaches as well. Let the D&O perfume chemists put the "odor of cleanliness" into your laundry products. Samples on request.

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PT57-1

Pressure Packaging (From Page 113)

Work on methods for determining foam volume and foam consistency in aerosol personal products and development of standard formulations for aerosol cosmetic and pharmaceutical products.

Development of standard methods for determination of liquid and powder spray patterns, for pressure determination for metered valves, and moisture determination—all in the personal products field.

Development of method for determining pressure in glass aerosol containers.

Progress on development of standard drop test method for evaluation of glass aerosol containers, and on a standard method for pretesting of glass aerosols.

Partial completion of Glossary of Terms to Use in the Aerosol Industry.

Many more items, in various stages of progress, were included in Mr. Baulieu's report. It's well worth reading and will be printed, of course, in full in the Proceedings of the CSMA's 43rd annual meeting.

Taking over as chairman of the aerosol scientific committee for 1957 is John J. Buchanan of Continental Can Company, well fitted to step into the big shoes vacated by Baulieu.

New P&G Headquarters (From Page 40)

ing is also the home of the comptrollers division, treasury and traffic departments, as well as staff departments such as market and economic research, office management and Procter & Gamble's 11 sales forces.

Thus, within a period of less than five years the three leading U. S. soap and detergent companies have moved into new headquarter offices. Lever House, head office building of Lever Brothers Co., was opened in New York in May, 1952, when the firm moved from Cambridge, Mass. Colgate-Palmolive moved from its Jersey City, N. J., headquarters to a new office building on Park Avenue, New York, just a few blocks south of Lever House, last April, and now Procter & Gamble has transferred its headquarters from the Gwynne

Building in Cincinnati, a site that it had occupied since 1914.

Fragrance in Aerosols (From Page 43)

most appetizing fragrance surrounds him.

Flavor aromas in aerosol have many potential uses which are not necessarily limited to the food field. To cite one specific example: we have available today a full range of flavor aromas which are completely stable in aerosol form. They can at the same time be employed to cover and perfume effectively all types of commercial and household insecticides, even formulas based on Malathion. The variety and distinctive character of these flavor aromas can be a definite marketing asset for aerosol fly sprays, as well as many other aerosol packaged household goods by providing individuality to the product and facilitate easy identification and recognition by the customer.

Looking at still another aspect: the C.S.M.A. aerosol product survey shows that room deodorants ranked third in 1955 in the total number of units sold, or some 38 million. Is it not possible to utilize the aerosol method of diffusion to combat objectionable odors in industrial plants as well? Great progress has been made by the essential oil and aromatic chemical industry in the development of reodorant materials to conquer industrial and waste odors which foul up the air in and around plants. These reodorant materials can be adapted for aerosol diffusion. There exists in my opinion a very fertile field for the application of aerosol systems on a commercial scale.

This is just another of the limitless possibilities for the expanded use of aerosols. We, the producers of fragrance in all its varied forms and applications, consider ourselves an integral and important part of this great and young field. The essential oil and aromatic chemical industry is proud to be able to share in its progress and growth.

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BARECO MICROCRYSTALLINE WAXES*

*Regular, oxidized and wax-resin blends.

Bareco waxes have been used by leading polish manufacturers for many years. This wide acceptance has enabled Bareco to specialize in the refining of microcrystalline waxes with the polish-makers' needs as a definite objective. Because of this specialization, use of Bareco wax products assures better polish characteristics; and it provides them economically.

Here is a partial listing of Bareco polish waxes and their specifications:

BARECO WAX	MELTING POINT °F.	PENETRATION	COLOR N.P.A.	ACID NUMBER	SAPON. NUMBER
Petrolite C-700	190 Min.	4 Max.	1 1/2 Max.	Nil	Nil
B-Square 190 A	190/195	2-7	1 1/2 Max.	Nil	Nil
Petrolite C-1035	195 Min.	2 Max.	1 1/2 Max.	Nil	Nil
Petronauba D	185 Min.	5 Max.	6 Max.	20-28	50-60
Petrolite C-15	180 Min.	4-6	4-5	15-17	45-55
Petrolite C-23	180 Min.	4-6	4-5	20-25	55-65
Petrolite C-36	180 Min.	5-7	4-6	30-35	75-85
Petrolite PE 100	195-200	2-3	4-6	15-20	45-55
Petrolite R 50*	190-200	2 Max.	4 1/2 Max.	40-50	65-80
Petrolite P 20	210-220	2 Max.	3 Max.	Nil	Nil

*R-50 is a microcrystalline wax—phenolic terpene resin blend. It is compatible with the waxes usually used in emulsion polishes, and can be used in all emulsion equipment. Its use saves the nuisance of separately storing and handling both resin and wax.

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Chemical Engineer and Chemist

(Formerly Director of Science, Government of
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ADVISOR ON AGRICULTURAL CHEMICAL PROBLEMS AND INVESTIGATIONS

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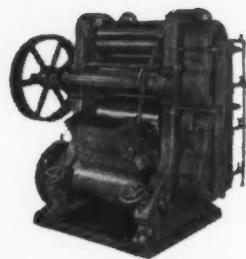
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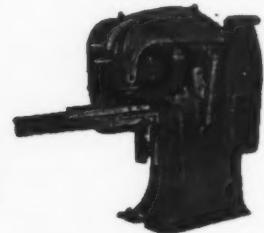
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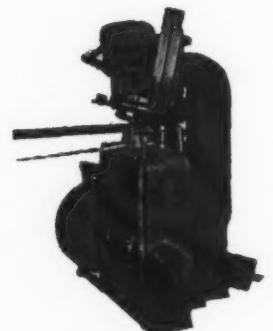
2—Proctor & Schwartz Automatic Soap Chip Dryers. Reddington High Speed, Late Style Cartoner. Newman Soap Crutchers, 1000, 3000, 5000 lbs. Automatic Soap Wrapping Machines. Toilet Soap Mills, Water Cooled.



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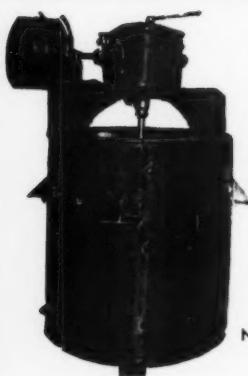


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Wanted: Jobbers and distributors for miniature guest soaps. Wrapped and unwrapped. Write for samples and prices to Box 778, c/o *Soap*.

Master Mechanic: For Connecticut aerosol filling plant. Excellent opportunity for Master Mechanic with broad experience in equipment design, plant layout and plant maintenance, with background in equipment and processing, filling and packaging of cosmetics, drugs, etc. Aerosol knowledge desirable but not essential. Top salary with great future. Our organization knows of this ad. Resumes kept confidential. Address Box 781, c/o *Soap*.

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Wanted by leading manufacturer of floor waxes, insecticides, soaps, disinfectants and other chemical specialties. A chemist with some background of experience in the field. Preference for man who has worked in waxes. Excellent opportunity with long-established company located in the East. Age approximately 25-35. Give details of experience, education, etc., to

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Aerosol Technicians Wanted: For control work and/or laboratory assistant. Excellent opportunity. Previous experience desirable but not necessary. Salary open. Replies held confidential. Address Box 785, c/o *Soap*.

(Continued on Page 175)

CHEMIST Wax Emulsions

Chemist with at least three years experience in chemical specialties field. An opportunity where the use of talent and creative ability are requisites in the development of industrial and household wax emulsion products. Give full details of education, experience, salary, and professional references. Your reply will be considered confidentially.

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Sales Correspondent Wanted: With ability to carry on direct mail sales, handling customer sales service and follow up for Connecticut aerosol contract packaging company catering to cosmetic, drug and toiletry fields. Experience with these type industries preferred but not essential. Resumes kept confidential. Our organization knows of this ad. Address Box 783, c/o *Soap*.

Chemist or Physical Chemist: With BS, MS or PhD. Wanted for aerosol and pressurized package research and development. Previous experience desirable but not necessary. Excellent opportunity. Salary open. Reply held confidential. Address Box 784, c/o *Soap*.

Aerosol Contract Pkg. Salesman: This is a top position for an alert, resourceful, hard hitting salesman with wide acquaintance amongst manufacturing and purchasing organizations of the cosmetic, toiletry and drug manufacturers. Headquarters will be in New York-Connecticut area. Tremendous opportunity and future for the right man. Our organization knows of this ad. Resume held in confidence. Appointment will be arranged. Address Box 782, c/o *Soap*.

Wax Chemist Wanted: Outstanding opportunity for an experienced wax chemist with a substantial company supplying natural and synthetic waxes. Position involves technical assistance to manufacturers of polishes, finishes, etc. Liberal salary plus bonus based on increased sales. Address Box 765, c/o *Soap*.

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This advertisement is addressed to a top sales executive . . . perhaps now a number two man whose opportunity for advancement is blocked by circumstances.

The advertiser is an old established AAA-1 Company producing basic aromatic chemicals of interest to soap, perfumery & cosmetic people.

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Salesman: Basic manufacturer of insecticide concentrates has opening for salesman to cover Iowa, Wisconsin, Minnesota, and eastern Dakotas selling to manufacturers and wholesalers. Headquarters Minneapolis. Salary, expenses and incentive plan. Prefer man with some sales experience and training in entomology or chemistry. Our personnel aware of this ad. Your reply confidential. Address Box 786, c/o *Soap*.

576 Pages of practical information, testing & uses of disinfectants, household & industrial insecticides, floor products, soap, specialties, etc. Covers also the subject of labeling and packaging of insecticides, etc. See page 48 for particulars.

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Transwrap Model B Auger Filler.
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Baker Perkins 50 gal. Stainless Steel Jacketed Double Arm Mixer.

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J. H. Day 450-650 gal. Steam Jacketed Jumbo Mixers.
R. A. Jones E and Houchin Semi and Automatic Soap Presses.
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Expert Soap Man: Having long experience in the manufacture of all kinds of laundry and toilet soaps, and cleaning compounds. Glycerine recovery, and soap chemist. Address Box 787, c/o *Soap*.

Soap Expert / Prod. Mgr.: Laundry soaps, toilet soaps, synthetic soaps and detergents, cleaning compounds. Wide technical and administrative experience. Now soap production manager in South America. German, Spanish, English. Desires responsible position. Address Box 788, c/o *Soap*.

Chemist, Ph.D.: 9 years experience. Development, research and production. Specialized in soaps, glycerine, fatty acids and oils. Formulation and publications. Desires responsible position. Address Box 790, c/o *Soap*.

Miscellaneous

Wanted: February 1954 copy *Soap* to complete our files. Address Tata, Box 791, c/o *Soap*.

(Continued on Page 177)

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For Sale: Two powder filling machines; one Triangle hand gluer; one Triangle Compression Unit. All in working condition for \$500. Franklin Supply Co., 86 Industrial St., Rochester 6, N. Y.

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Available: 64 page listing of "Synthetic Detergents Up-to-Date", (1955). Write John W. McCutcheon, 475 Fifth Ave., New York 17, N. Y.

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New Towel Dispenser

A new towel dispenser, designed for convenient and rapid distribution of towels for industrial use, has been introduced by Industrial Wiping Cloth Co., 29-28 41st Ave., Long Island City 1, N. Y. Trademarked "Texel," the dispenser operates by dropping soiled towels into an opening near the top of the machine. The towel strikes a lever, which trips a counter that determines the number of clean towels to be dispensed.

Liquid Detergents

(From Page 47)

tion of pyrophosphate once it is formed, and consequently slowing down the rate of buildup of orthophosphate. If an amount of sodium hydroxide is added to the "SQ" phosphate formulation slightly more than sufficient to neutralize all the products of degradation of the phosphate a marked change in the progress of the degradation is noted. The initial pH is 12.1, and it changes but slightly throughout

the experiment. In this case *initial* degradation to tripoly-, pyro-, and orthophosphates is as rapid as before, but once formed the tripolyphosphate degrades slowly and the rate of further formation of orthophosphate is very markedly slowed down.

Summary

This investigation has demonstrated some of the properties of the various commercial polyphosphates with respect to hydrolytic degradation in typical liquid all-purpose detergent formulations. The importance of pH as a controlling factor in the degradation process has been illustrated. Karl-Kroupa's chromatographic analysis for phosphate species (5) proved well adapted to the examination of phosphate species in these systems.

We would like to acknowledge with pleasure the contributions of R. E. Blair and B. R. Piereson to the analytical phase of this investigation.

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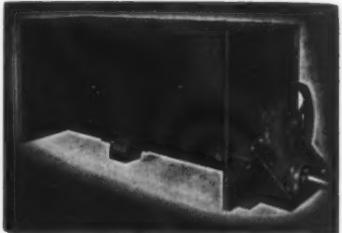
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New Patents

(From Page 127)

group consisting of N-heptadecanoyl and N-stearoyl sarcoside compounds having less than about 15% based on the weight of said sarcoside of higher fatty acid material, the amount of said material being insufficient to adversely affect said sarcoside.

No. 2,771,480. Purification of Glyceride Oils by Means of Ion-Exchange Resins, patented by Martin G. Chasanov, Newport, Del., Robert Kuhn, Trenton, N. J., and Morris Mattikow and Benjamin H. Thurman, New York, N. Y., assignors of one-half to Benjamin Clayton, doing business as Refining, Unincorporated, New York, N. Y., and one-half to Rohm & Haas Co., Philadelphia, Pa. This patent teaches a process of refining a glyceride oil containing free fatty acids and color-bodies which comprises bringing said oil in contact with particles of a strongly basic anion-exchange resin containing quaternary ammonium hydroxide groups, adsorbing said fatty acids and said color-bodies on said resin, separating the oil and resin, removing adsorbed color-bodies from said resin by treating the resin with a solution of an oxidizing agent which is a member of the class consisting of aqueous solutions of inorganic hypochlorites and of hydrogen peroxide and removing said adsorbed fatty acids from said resin by treating the resin with a solution of caustic alkali.

No. 2,772,206. Production of Fermentation Glycerol, patented by Edward M. Frankel, New York, N. Y., and Samuel L. Goldheim, Baltimore, Md. Described is a method of manufacturing glycerol by fermentation which comprises fermenting an aqueous sugar solution with yeast in the presence of sodium sulphite-bisulphite, separating the yeast cells from the fermentation liquid, evaporating ethanol and acetaldehyde from the yeast-free liquid to obtain a residual solution containing glycerol and sodium sulphite, passing said solution through a cationic exchanger thereby to obtain an effluent containing glycerol and sulphurous acid, heating said effluent to drive off sulphur dioxide thereby to obtain a solution of glycerol of high purity.

No. 2,772,207. Glycerol Manufacture, patented by Edward M. Frankel, New York, N. Y., and Samuel L. Goldheim, Baltimore, Md. Revealed is a method of manufacturing glycerol by fermentation which comprises fermenting an aqueous sugar solution with yeast in the presence of sodium sulphite-bisulphite, separating the yeast cells from the fermented liquid, evaporating ethanol and acetaldehyde from the yeast-free liquid to obtain a residual solution containing glycerol and sodium sulphite, passing said solution through a polar ion excluding material whereby the glycerol is retained in said ion excluding material and the sodium sulphite-bisulphite emerges with the effluent, and washing the aforesaid material thereby to

obtain a solution of glycerol in high purity.

—★—

Vitro Buys Berkshire

Vitro Corp. of America, New York, has purchased Berkshire Chemicals, Inc., New York, it was announced recently by J. Carlton Ward, Vitro president. Berkshire's varied line includes mercury and mercurials. The sale was consummated by the exchange of all outstanding shares of Berkshire for 12,667 shares of Vitro stock. Berkshire will be operated as a wholly-owned subsidiary but continue its own business, and sell for two of Vitro's divisions. Malcolm McAllister will continue as president.

—★—

BIMS Re-Elects Harris

Hart Harris, Jr., S. B. Penick & Co., has been re-elected as chairman of BIMS of Boston, it was announced at a recent executive meeting. New members of the executive committee are Warren Kell, Ungerer & Co., and T. Fred Baker, Fritzsche Brothers, Inc.

—★—

New Solvay Plant

Solvay Process Division of Allied Chemical & Dye Corp., New York, has begun full-scale production at its new Brunswick, Ga., chlorine-caustic soda plant, it was announced recently. The new installation will manufacture liquid caustic soda in both regular and rayon grades. No dry formulations of the product are presently planned. Liquid chlorine is available in standard tank car lots of 16, 30 and 55 tons. In addition to the Brunswick plant, Solvay has chlorine-caustic soda facilities at Syracuse, N. Y., Baton Rouge, La., and Moundsville, W. Va.

Products and Processes

(From Page 129)

sorbing abrasive such as bentonite is added to the formula for liquid polish. An addition of about 60 parts of oil-absorbing abrasive such as tripoli makes the product more liquid. Grit-free bentonite is highly recommended for use in products

of the above type, while tripoli is more suitable for water-free polishes. Tripoli is incorporated into the still liquid wax solvent solution, whereas bentonite is stirred into the finished emulsified polish. Dispersion and stability of the product gain by the presence of bentonite in the formulation. Other abrasives include: kieselguhr, diatomite, fuller's earth, china clay, chalk, talc, iron oxide, zinc oxide, and titanium dioxide. The last two materials are soft abrasives suitable for use on light-colored car bodies.

The following formula is suggested by Commercial Solvents Corp., New York, in the publication "Nitroparaffins": Mineral oil (60-80 sec.), 6; petroleum naphtha (95-140°C.), six; oleic acid, 2; carnauba wax, 1; aminomethyl-propanol, 1; diatomaceous earth, 11; water, 73 parts.

The first four ingredients are melted together and the diatomaceous earth is stirred into this melt to make a thick paste. Aminomethyl-propanol and water, mixed together and warmed to about 75°C. are then added to the warm melt with very vigorous agitation. The use of a colloid mill for this operation gives excellent results. Proportions of diatomaceous earth, mineral oil, and naphtha may be varied within a reasonable range depending upon grades of ingredients used and upon characteristics desired in the final product.

Motor car polishes containing silicones are formulated as follows: Silicone oil, 1.5; high melting microcrystalline wax, 5.0; and white mineral spirit, 93.5 parts. Wax and silicone are dissolved in mineral spirits at about 140°F. or higher, and then cooled fairly rapidly with good agitation. Some time after cooling turbidity may occur. Easy to prepare, this type of polish produces a film of good appearance and durability. The polish is wiped over the surface with a cloth and the solvent permitted to evaporate. Excess wax is removed and polishing is effected by comparatively moderate rubbing.

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Coming Meetings

American Oil Chemists Society, fall meeting, Cincinnati, Sept. 30, Oct. 1 and 2.

Association of American Soap & Glycerine Producers, 30th annual meeting, Waldorf-Astoria Hotel, New York, Jan. 23-25.

Chemical Market Research Association, Sheraton Hotel, Philadelphia, Feb. 19-20.

Chemical Specialties Manufacturers Association, 43rd mid-year meeting, Drake Hotel, Chicago, May 20-22; 44th annual meeting, Hollywood Beach Hotel, Hollywood, Fla., Dec. 9-12.

Drug, Chemical and Allied Trades Section, New York Board of Trade, 67th annual meeting, Galen Hall, Wernersville, Pa., Sept. 19-21, 1957.

Entomological Society of America, southwestern branch, Gunter Hotel, San Antonio, Tex., March 11-12.

Folding Paper Box Association of America, annual meeting, Chicago, March 31 to April 4, 1957.

Grocery Manufacturers of America, 49th annual meeting, Waldorf Astoria Hotel, New York, Nov. 11-13, 1957.

National Association of Retail Grocers, Los Angeles, June 10-14, 1957.

National Packaging Exposition and Conference, International Amphitheatre, Chicago, April 8-11, 1957.

National Pest Control Association, eastern PCO conference, University of Massachusetts, Amherst, Mass., Jan. 23-25; Purdue PCO conference, Purdue University, West Lafayette, Ind., Jan. 28-Feb. 1; southern PCO conference, Louisiana State University, Baton Rouge, La., Jan. 28-30; 24th annual convention, Louisville, Ky., Oct. 21-24.

National Sanitary Supply Association, national trade show and convention, Conrad Hilton Hotel, Chicago, March 31, Apr. 1-3 1957.

Packaging Machinery & Materials Exposition, Convention Hall, Atlantic City, N. J., March 25-28.

Eighth Plant Maintenance Show & Conference, Public Auditorium, Cleveland, Jan. 28-31, 1957.

Synthetic Organic Chemical Manufacturers Association, monthly luncheon meetings, Roosevelt Hotel, New York, Feb. 14, March 12.

Toilet Goods Association, 22nd annual convention, Waldorf-Astoria Hotel, New York, May 7-8, 1957.

Western Plant Maintenance and Engineering Show and Conference, Civic Auditorium, San Francisco, June 11-13.

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Cale Ends

BAYARD JOHNSON of Philly, prez of the famous, or infamous, Spurious Products Co., the dream company which he and Mel Fuld founded some years back to manufacture "No-Polish Floor Wax," has come up with another new product, a companion product of their now well-known "Gilt." As told to us, the new product is a special low-calorie hair shampoo for fat heads. It should find a wide market.

* * * * *

Latest medical therapy involves a synthetic detergent. Yup, Winthrop Stearns has come up with a new baby, a "pulmonary detergent". Now if you have a bad head cold, the doc invites you to his office for a treatment involving inhalation of oxygen and the pulmonary detergent. Works pretty good, too.

* * * * *

If there were an award for the most novel Christmas gift received at this office just before the holidays we're sure the voting would wind up in a tie between S. C. Johnson and Hewitt Soap Co. From Tony Budner at Johnson came a reproduction of the Racine wax firm's famous research tower in the form of a candle. Hewitt sent us four Christmas tree balls in soap. Complete with traditional design and silver hanging cord, the tree balls in red, blue, green and yellow were ready for hanging on the Christmas tree.

* * * * *

Speaking of Christmas, our annual card from Andrea Pollitzer, Trieste, Italy soap maker has us a little puzzled. We are not quite sure whether or not this year's card is impregnated with soap. Would Signor Pollitzer please advise us. Anyway, to the Pollitzers and all of our other friends in and around the trade who so kindly remembered us with cards and gifts, thanks and here's hoping 1957 will be even bigger and better.

* * * * *

The receptionist at Givaudan-Delawanna in N. Y. C. has a lot of fun when Ed Colt, technical director of the soap division of Armour & Co. drops in to see Bob Horsey, Givaudan's vice-pres. in charge of sales, about getting some more hexachlorophene for Armour's "Dial" soap. "Mr. Colt to see Mr. Horsey", she announces, punctuating the phrase with a snicker.

* * * * *

Footnote to the 1956 aerosol packaging contest sponsored by CSMA: two of the firms whose entries won are associated with companies well known in the U.S. and elsewhere. Scent De Paris Co., Toronto, Canada, whose "Matinee" hair spray won in the hair preparations class, is a subsidiary of G. H. Wood Co., Toronto. The winner in the miscellaneous household products category, "Bib" window cleaner, is a product of Societe Elekta, Paris, which in turn is a distributor for Airkem, Inc., New York.

* * * * *

It was late in the final afternoon of a three day convention. The preceding pap-

ers at the discussion session were highly technical and most everyone was a little tired mentally and physically. The room was quiet as the speaker read his paper and slides were thrown on the screen in the darkened room. Suddenly the speaker asked for the next slide, it was, he indicated, "Table I." For a brief instant the room remained silent, then came alive as a wave of laughter engulfed the audience. The "next slide," showing Table I, was a picture of a table with four chairs and a single place setting. The speaker: Daniel Schoenholz of Foster D. Snell, Inc., New York; the subject: "Statistical Analysis of Dura vs. James Coefficient of Friction Measurements;" the place: the Dec. 5 session of the Waxes and Floor Finishes Division during the recent CSMA meeting in Washington. It was the most spontaneously funny situation we've witnessed at a convention in a long time.

* * * * *

Philadelphia Quartz Co., which is currently celebrating its 125th anniversary, has, since its founding used the salutation, "Respected Friend", on all correspondence.

Recently the "Greater Philadelphia Magazine" of the Philadelphia Chamber of Commerce in complimenting the company on its distinctive salutation published it as "Requested Friend". In its own house organ, "Silicate P's & Q's", Philadelphia Quartz takes the thing philosophically and points out "We have never thought of our salutation as an appeal for friendship, but perhaps subconsciously there is such an implication." Anyway, here's to 125 more years to a fine old firm.

* * * * *

No, gentle reader, the man on this month's front cover is not a bright eyed, young college senior, but Harry Peterson, well-known, newly elected president of CSMA, and a veteran in the bustling aerosol business.

* * * * *

Some outfits go to remote corners to find new uses for their products. Like using soap or detergent suds for moving heavy objects such as refrigerators, freezers, etc. on linoleum, tile or the like floors. C. B. Dodge Co. of Westport, Conn. recently suggested the use of their "Briteway Cleaner-Sanitizer" in a thick suds for skidding a refrigerator into a new spot in the kitchen. When the job is done, just mop up the suds and the floor has been cleaned as well. Presto!

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